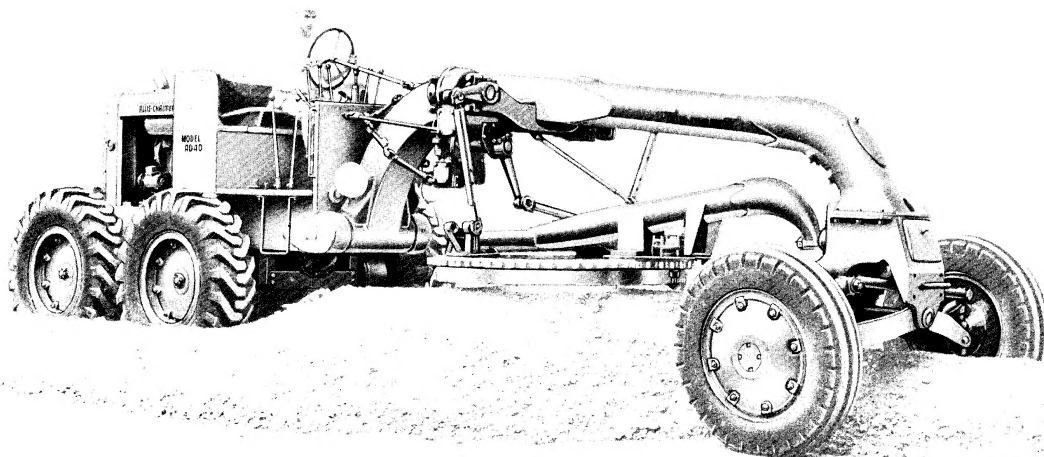


25X1

Approved For Release 2005/04/22 : CIA-RDP83-00423R001900190001-0

# a NEW heavy duty motor grader

**THE ALLIS-CHALMERS**



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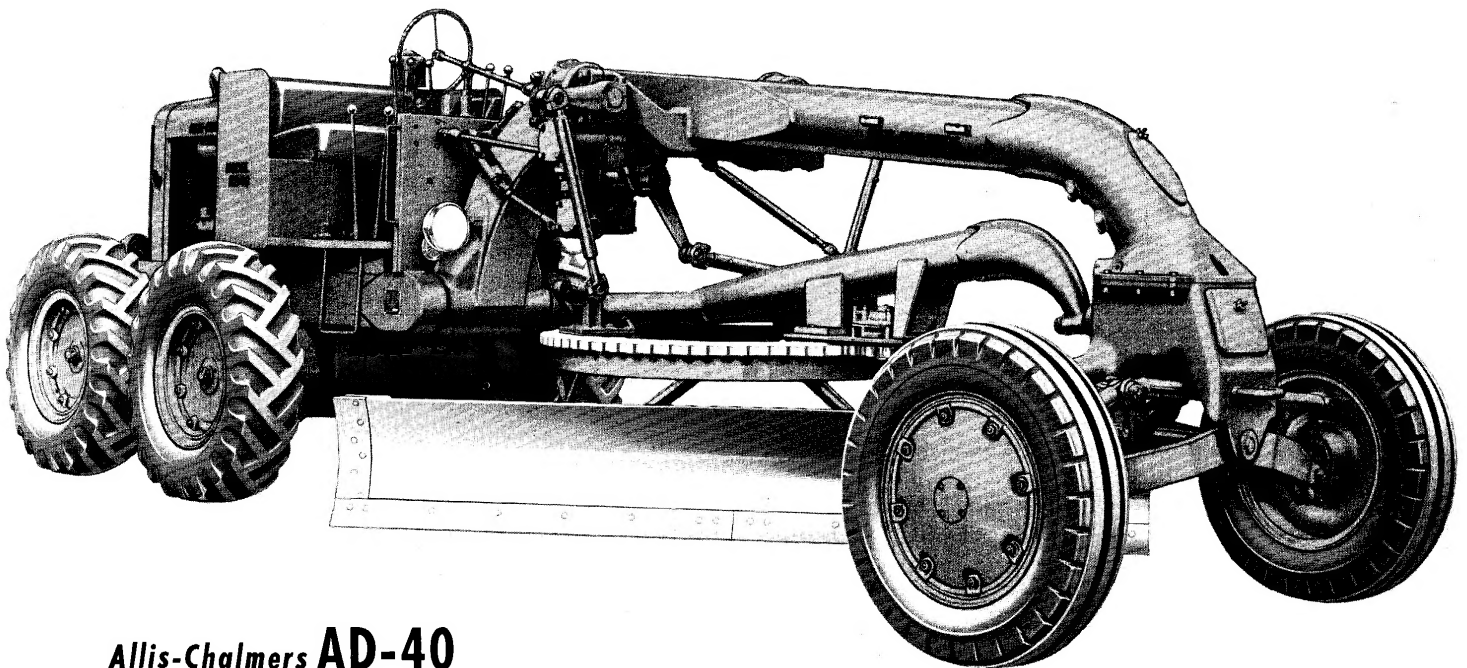
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## ***More Efficient Performance on all Grader Jobs***

The AD-40 is designed for today's jobs — meets today's demand for more efficient motor grader performance. This modern grader brings new operating ease, new service simplicity, and new performance advantages to all users of motor graders, including contractors, private operators, and public bodies — on highway, airport, construction, lumber, mining, quarry, soil conservation, and oil field projects. This outstanding motor grader easily handles both construction and maintenance work — does a superior job of shaping and finishing surfaces, ditching, bank cutting, oil mixing, scarifying, and snow plowing. Whatever the job, the AD-40 does it easier, quicker, and better — with the kind of efficiency that brings big savings throughout the year.

**Faster...Easier**

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**Allis-Chalmers AD-40**  
**104 Brake Horsepower**

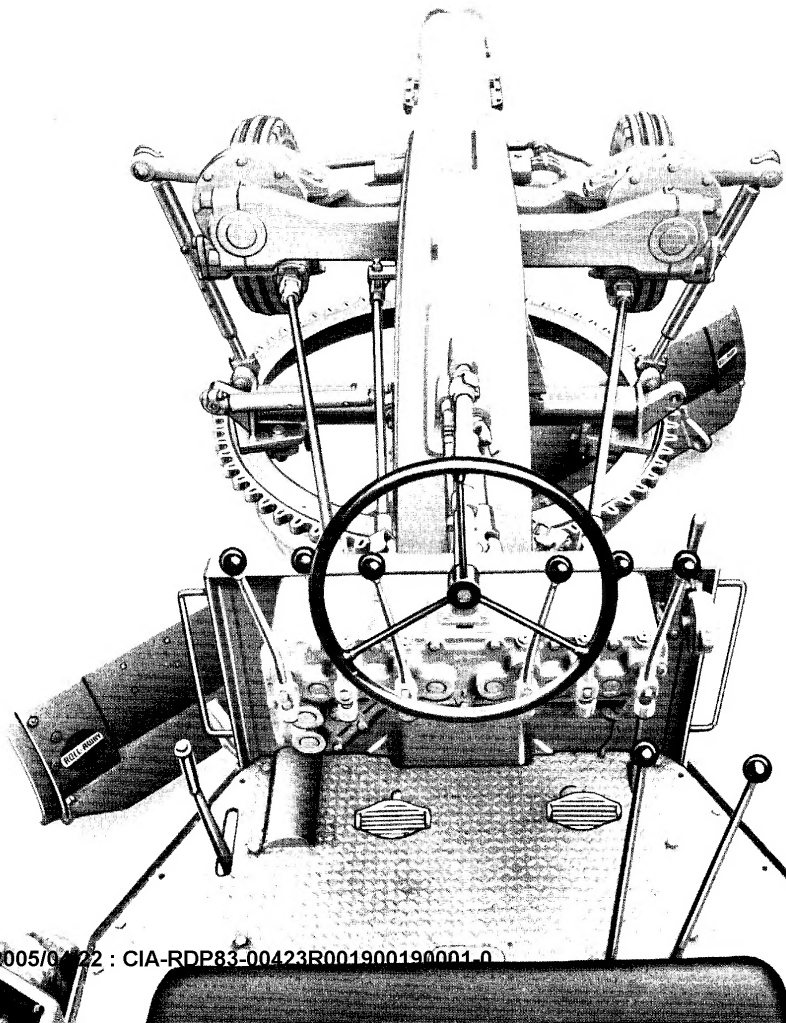
WEIGHT . . . 23,000 lbs.  
(24,800 lbs. with optional  
calcium chloride in tires.)

**DESIGNED FOR YOUR JOB . . . BUILT TO TAKE IT**  
**EASY TO OPERATE . . . EASY TO SERVICE**

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## FULL VISIBILITY FOR THE OPERATOR

Look at the visibility an operator has from the AD-40 platform! With a single member frame from front axle to platform, smaller diameter lift cases, low control box, and tapered platform, the AD-40 operator has full opportunity to do his best work. There are no assemblies on the front panel to obstruct his vision . . . whether he is tall or short, he can see exactly where his front wheels are and just what his blade is doing at all times.



# ***Full Control of the Work***

---

## ***Easy Working Controls***

HYDRAGUIDE®, the outstanding new hydraulic power steering system, goes to work the instant you start to turn — does most of the steering work for you. In addition, direct shifting with 6 speeds forward and 3 reverse, constant mesh top shaft in the transmission which permits shifting on the go without clashing or grinding, light clutch pedal pressure, and easy operating control levers that have spring loaded jaw clutches to eliminate "free wheeling", all contribute to keep the operator on top of every job with a minimum of effort.

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## ***Hydraulic Brakes***

Positive hydraulic brakes are standard equipment on the AD-40 . . . give the operator complete, reliable control for stopping. Pedal pressure is light, with ample braking capacity under any load. A mechanical parking brake is also provided.

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## ***True Comfort . . . Sitting or Standing***

Control of the AD-40 is equally accurate and comfortable whether the operator sits or stands. The seat rolls forward to give easy access to controls when the operator desires to work in a sitting position. This adjustable seat has an easy working latch that locks in intermediate positions to compensate for the height of the operator. When the operator wishes, he rolls the seat back without effort and has the full platform for stand-up operation.

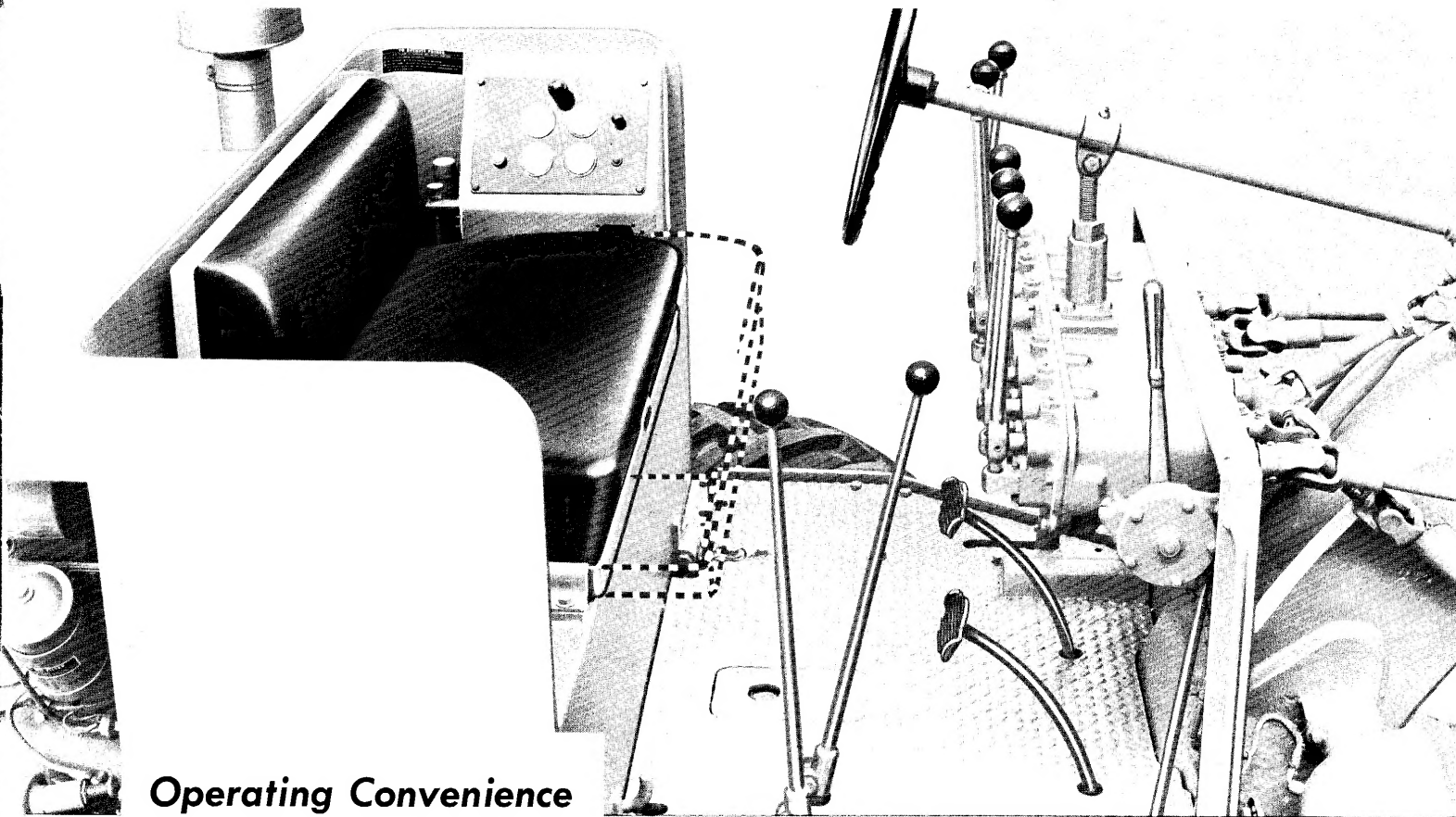
No other motor grader has been designed with the operator more in mind. *Unmatched Visibility* — Single member frame from front to platform. New lift cases, low control box, and tapered platform give the operator a full view of what he is doing. *Feather-Touch Steering* — The built-in hydraulic power steering unit, fully enclosed in the frame, provides effortless steering with positive control under even the toughest conditions. *All-Around Comfort* — Roomy platform, adjustable seat, and simple controls offer any size operator true comfort, sitting or standing. Hydraulic brakes require light pedal pressure, provide positive, controlled stops.

Here's maintenance and repair accessibility that is exclusive with the AD-40. Combined fuel tank and seat

unit tilts forward for easy access to clutch, transmission, and drive shaft. Transmission can be removed without disturbing engine or floor plates. Power take-off and hydraulic steering pump are readily accessible.

Add these outstanding operator and service advantages to the exclusive Allis-Chalmers work producing features that include ROLL-AWAY moldboard — single member frame incorporating shock-absorbing tubular design — extra high clearance from front to rear — smooth, dependable, General Motors 2-cycle Diesel power . . . and you have the finest heavy duty motor grader on the market.

ROLL-AWAY is an Allis-Chalmers trademark.

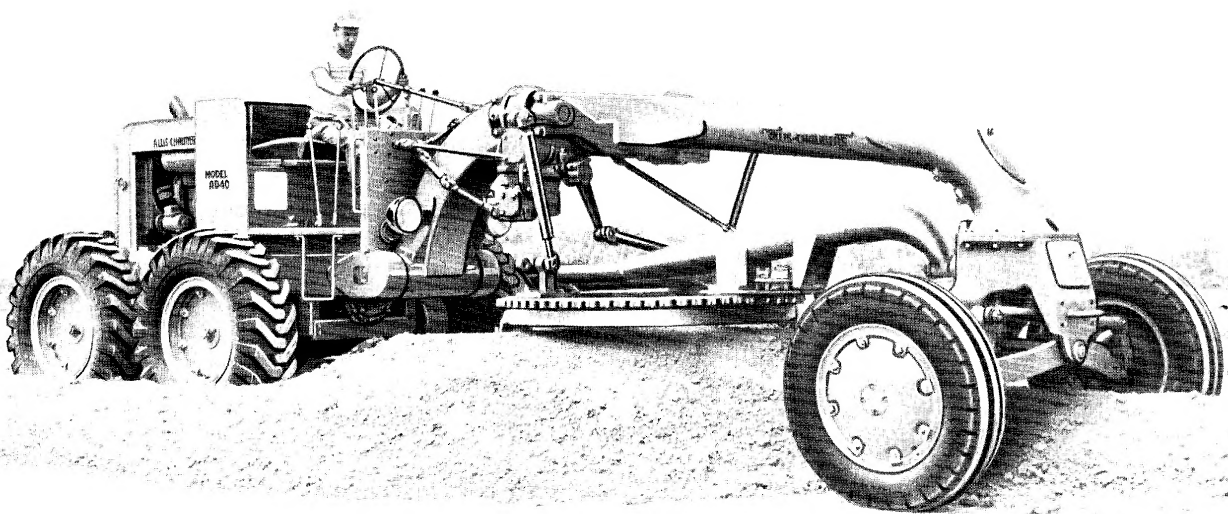


## **Operating Convenience Boosts Production**

Note the wide, clean platform, convenience of all controls, and cushioned, adjustable seat. Steering wheel also adjusts to fit height of operator. Instrument panel is in full view at left of seat, close to the engine for greater reliability. Hydraulic power steering, standard on the AD-40, combines the ease of hydraulic steering with the accuracy of manual control. These practical features reduce the demands on the operator's attention . . . permit him to do a better job quicker because he concentrates



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## CONSTRUCTION

Big windrows are straddled and moved easily by the AD-40 motor grader. Extra high clearances under front axle, drawbar, and circle; General Motors 2-cycle Diesel flexibility; and the power-saving ROLL-AWAY mold-board give maximum dirt-moving production on every grading job.

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## MAINTENANCE

The AD-40 has a steady blade for precision cuts because front mounted lift cases eliminate long lift arm shafts that twist or wind up under load. This design means less blade vibration, and gives the smooth, uniform finishes necessary on all maintenance jobs.

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## BANK CUTTING

A full range of blade positions, plus exceptional stability to resist side-thrust, give a clean, accurate bank cut. Whether it's a low back slope or a vertical cut, the AD-40 operator has complete command of the job with a minimum of effort.

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## DITCHING

With 104 horsepower and plenty of traction, fast, accurate ditch cuts are a natural for the AD-40. Whether you want a regular ditch cut or a flat bottom ditch, it's just a matter of seconds to change from one blade position to another, right from the operator's platform and without offsetting the blade.

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## OIL MIX

Clean, simple design and the exclusive ROLL-AWAY moldboard make the AD-40 tops in a quick, thorough oil mix. Steering linkage and front wheel lean are designed to shed material readily. Outside circle turn teeth are self-cleaning to eliminate packing. There's less lost motion on the job, and back-breaking machine clean-up is held to a minimum.

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**Ordinary Moldboard**  
(Fixed Radius Curve)

Each portion of blade  
forces dirt toward a  
fixed point.

**Packing Limits  
Capacity**

Packing action causes  
high friction area over  
entire blade — wastes  
power.



**ROLL-AWAY Moldboard**  
(Involute or Variable Radius Curve)

Each portion of blade  
forces dirt toward a  
different point.

**No Packing  
Here**

Pressure against blade  
and friction decrease  
toward top of blade  
— no wasted power.



# ROLL-AWAY moldboard

The exclusive ROLL-AWAY moldboard — used on all Allis-Chalmers motor graders — handles capacity loads with less power by rolling the dirt instead of pushing it. This positive, power-saving rolling action moves more material faster and with less effort on all types of motor grader work!

## **EASY TO SERVICE**

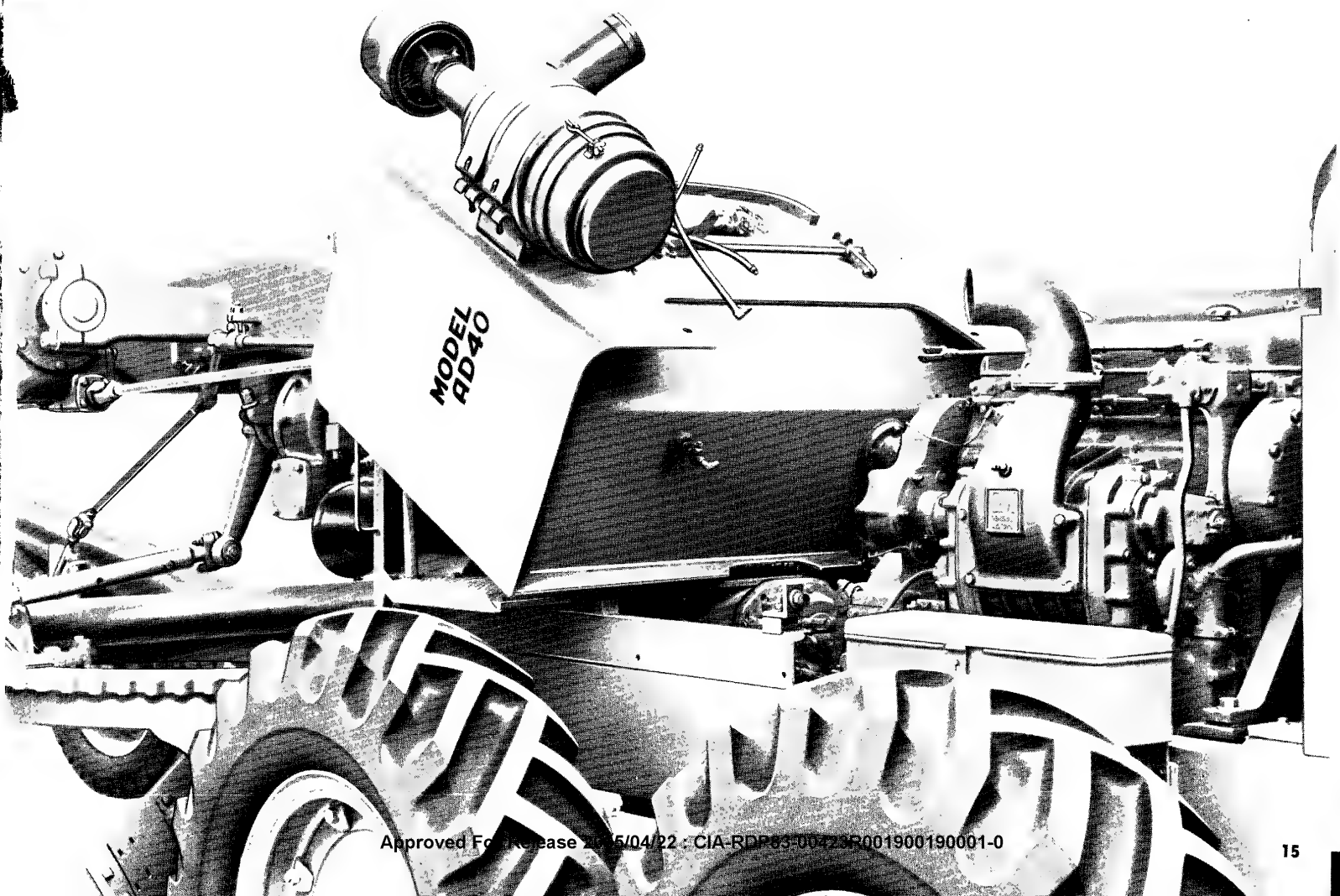
A new kind of maintenance and repair accessibility, exclusive on the AD-40, makes it the easiest motor grader on the market to service. Combined fuel tank and seat unit tilts forward for easy access to the clutch, transmission, and drive shaft. Transmission can be removed without disturbing engine or floor plates, and engine clutch can be removed without disturbing either engine or transmission. The clutch brake has a simple, external linkage adjustment, and wheel brake backing plates can be tightened from the outside without removing wheels. Axle shafts are tapered and keyed for easy removal of wheels.

Hydraulic power steering unit pump and reservoir are readily accessible, as are all lubrication and maintenance points on the AD-40. A split head casting permits full accessibility to the power steering unit. The simplicity of the 2-cycle Diesel engine and the high percentage of interchangeability of parts between all GM "71" series engines also fit into the AD-40 pattern of simplified servicing.

Yes, the AD-40 stays on top in the roughest, toughest going. And just as important, it is designed and built to get back to work quicker and at less expense when regular service and repair become necessary after long, hard usage.



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**STANDARD EQUIPMENT:** Includes HYDRAGUIDE® power steering; two rear wheel hydraulic brakes; mechanical parking brake; adjustable seat; muffler; 12 volt electric generator; batteries; starter; two white headlights; two red combination rear and stop lights; dash light; horn; leaning wheel front axle; 12-foot moldboard with end bits; four 13.00 x 24 (8 ply) rear and two 9.00 x 24 (10 ply) front, pneumatic tires with tubes.

**WEIGHT**

Shipping (Approx.)	23,000 lbs.
On Front Wheels	6,460 lbs.
On Rear Wheels	16,540 lbs.
(With optional calcium chloride solution in tires weight is 24,800 lbs.)	

**SPEEDS — M. P. H.** Grader can be throttled down, under governor control, to one-half these rated speeds without loss of rim pull.

	1st	2nd	3rd	4th	5th	6th	Rev	Rev	Rev.
Gear	1st	2nd	3rd	4th	5th	6th	Rev	Rev	Rev.
M.P.H.	2.7	4.0	5.8	8.7	12.9	20.4	3.2	4.8	7.0

**DIMENSIONS**

Length Overall	25' 7 <sup>3</sup> / <sub>8</sub> "
Width Overall	7' 7 <sup>1</sup> / <sub>4</sub> "
Height Overall	10' 5 <sup>1</sup> / <sub>2</sub> "
	With Cab
	Without Cab
Length Front Axle to Rear Drive Axle	18' 9"
Blade Base	92"
Tread Front	79 <sup>1</sup> / <sub>2</sub> "
Rear	78 <sup>1</sup> / <sub>2</sub> "
Turning Radius	40'

**CONTROLS**

Power Operated	Mechanical
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**STEERING**

Combination Mechanical and Hydraulic	HYDRAGUIDE®
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**MOLDBOARD (STANDARD)**

Shape	Involute Curve
Length and Thickness	12' x 1 <sup>1</sup> / <sub>4</sub> "
Width Str. across including Cutting Edge	22"

**MOLDBOARD RANGE**

Side Shift (Max.) from center position with mold board and side shift link extended	46 <sup>1</sup> / <sub>2</sub> " R or L
Pitch Positions, Number	Seven
Shift on Moldboard Arms	18" R or L
Lift Above Ground	19 <sup>3</sup> / <sub>8</sub> "
Bank Cutting Angle (Max.)	90°
Reach Outside Front Wheels (Max.)	71 <sup>1</sup> / <sub>2</sub> " R or L

**CIRCLE**

Diameter	63"
Section Shape and Size	Angle 6" x 3 <sup>3</sup> / <sub>4</sub> " x 1"
Degrees Turn	360
Normal Distance Top of M. B. to Bottom of Circle	8-1/16"

**LIFTING MECHANISM**

Type	Enclosed Worm and Gear
Diag. Lift Shafts	31 <sup>1</sup> / <sub>2</sub> "
Range of Cranks	360
Lift Link Size	1 <sup>3</sup> / <sub>8</sub> "
Lift Link Connections	Ball and Socket
Lift Link Conn. Takeup	Shims

**OPERATOR'S PLATFORM**

Height Above Ground	48 <sup>1</sup> / <sub>2</sub> "
Width at Rear	58"
Width at Tapered Front	39"
Length	31 <sup>1</sup> / <sub>2</sub> "

**DRAWBAR**

Size Main Pipe	7" Ex. Strong
Size Cross Pipe	5" Ex. Strong
Connection	Ball and Socket

**FRAME**

Head Casting	Steel
Pipe (Main)	10" Ex. Strong
Channels	Welded Box Section, 10" Ex. Strong
Weight per Foot (Max. Section)	190.8 lbs.
Section Modulus (Max. Vertical)	145.7

**AXLE — FRONT**

Construction	Welded Steel Truss Type
Wheel Lean (each way)	25 30'
Clearance at Centerline	
9.00 x 24' tires	23 <sup>3</sup> / <sub>8</sub>
13.00 x 24' tires	26 <sup>1</sup> / <sub>8</sub>

**AXLE — REAR**

Construction	No Differential
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**TANDEM DRIVE HOUSINGS**

Construction	Welded Box
Drive	Roller Chain

**TIRE SIZE — FRONT**

Standard	9.00-24"
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**TIRE SIZE — REAR**

Standard	13.00-24"
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**BRAKES**

Foot Brakes, on 2 Rear Wheels	Hydraulic
Hand Brake, on Transmission	Mechanical

**ENGINE**

Make	Gen. Motors Model 4-71
Brake H.P. Max.	104
Fuel	Diesel
No. Cylinders	4 (2-cycle)
Bore and Stroke	4 <sup>1</sup> / <sub>4</sub> " x 5"
Piston Displacement, Cu. In.	284
R. P. M.	1600
Piston Speed Ft. per Min.	1333 at 1600 R.P.M.
Lubrication	Forced Feed

**CAPACITIES**

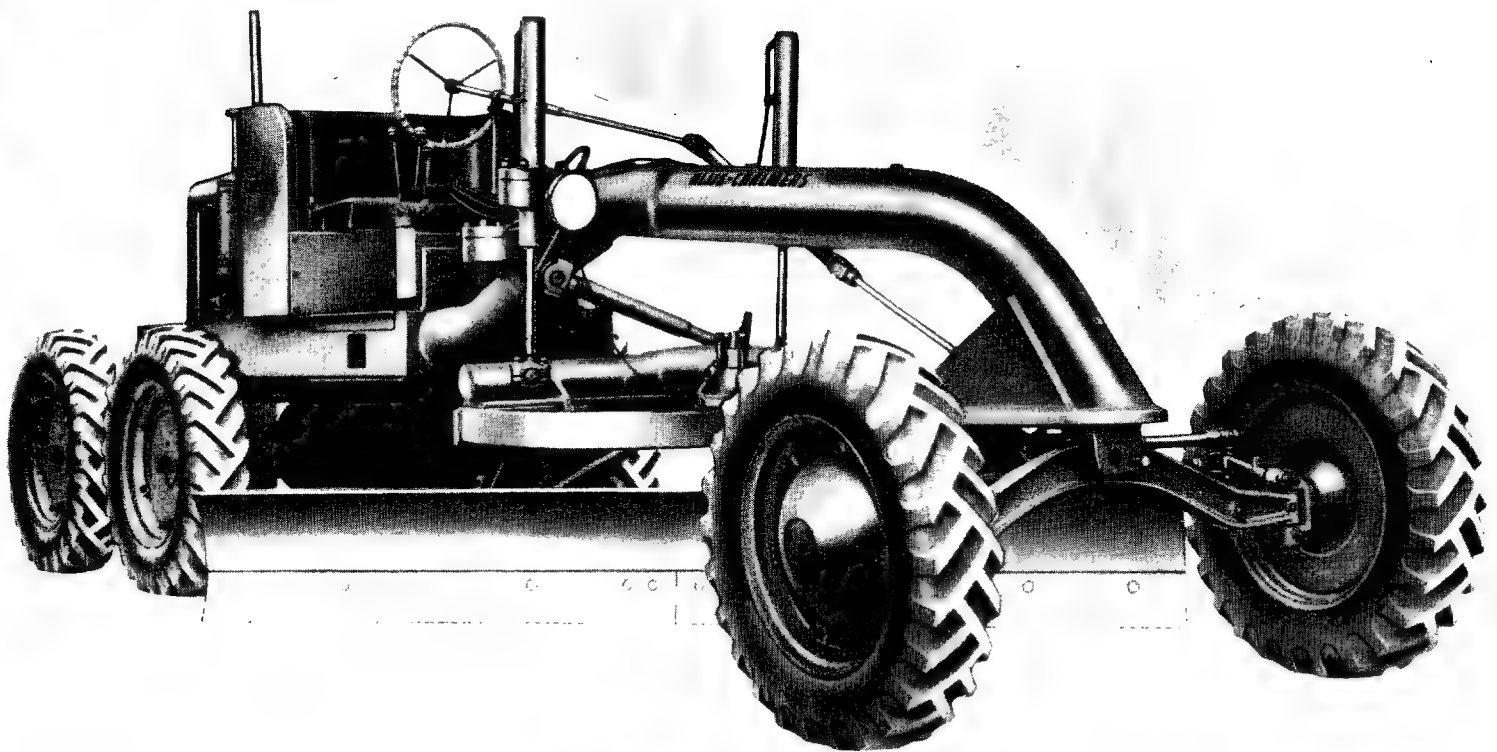
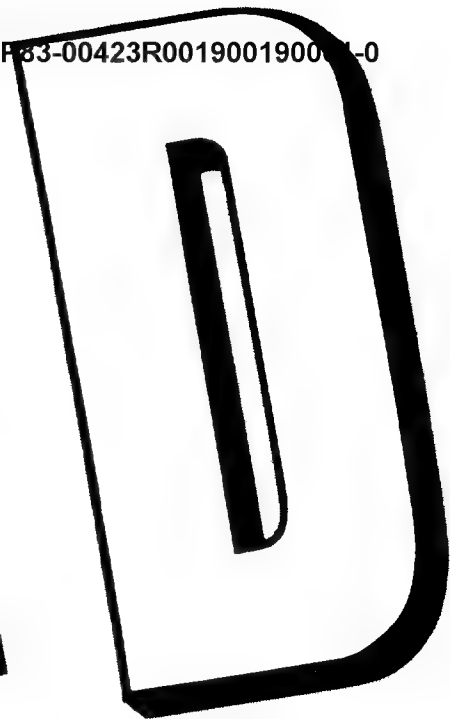
Fuel Tank	Gallons	66
Cooling System	Gallons	6 <sup>1</sup> / <sub>2</sub>
Crankcase	Quarts	15
Transmission	Quarts	8

**OPTIONAL EQUIPMENT (Extra Cost)****SCARIFIER**

Weight, lbs.	1,500
Swath Width	46"
Number Teeth	11
Pitch Positions	5
Pressure — Max.	9,100 lbs.
Cab — Snowplow, V-type with wings — 10' or 14' Moldboards — Blade extensions, 2' R or L — 13.00 x 24 (8 ply) Front Tires — Calcium chloride solution for rear tires — Hour Meter — Odometer — Windshield Wiper — Cab Heater — Defroster Fan — Engine Preheater — Hood Side Plates — Radiator Curtain — Power Tire Pump — Flood Light — Hydraulic brakes on 2 forward tandem wheels — Heavy Duty Filters.	

The Allis-Chalmers Mfg. Co. reserves the right to make changes in the above specifications or to add improvements at any time without notice or obligation.

The **JOB-PROVED**  
*Allis-Chalmers*  
**MODEL**



**the original low cost**

**with big grader design  
and performance advantages**

**Prove again and again the ability of the Model D  
to do outstanding work on construction and maintenance**

GENERAL CONTRACTORS  
ROAD BUILDING CONTRACTORS  
STATE HIGHWAY OFFICIALS  
COUNTY ROAD DEPARTMENTS  
TOWNSHIP OFFICIALS  
CITY STREET DEPARTMENTS  
PARK OFFICIALS  
CEMETERY OFFICIALS  
LOGGERS  
FORESTERS  
OIL FIELD OPERATORS  
MINERS  
PIT AND QUARRY OPERATORS  
BRICK AND CLAY OPERATORS  
RAILROADS  
MILITARY SERVICES  
MANUFACTURING PLANTS  
SOIL CONSERVATIONISTS

Building and Maintaining Road Shoulders

Building Fire Lanes

Landscaping

Maintaining Railroad Rights of Way

Grading Air Fields

Cleaning Berm

Loading from Stockpiles

Plowing Snow

Loading Snow

Regular Maintenance

Light Construction

Leveling Sub-Grades

Finishing Between Forms

Building Ditches

Sloping Banks

Scarifying

Backfilling

Terracing

Leveling Subdivisions

Material Handling

Loading Surplus Dirt

Maintaining Haul Roads

Working Oil Mix

Maintaining Parking Lots

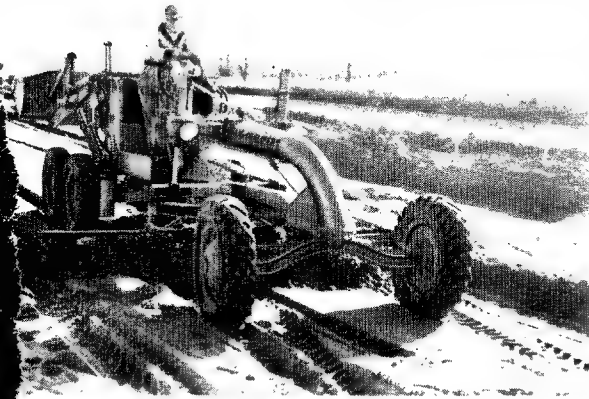
Patching Work



The low-priced easy to operate Model D handles light construction, maintenance and drainage work on every type of access road.

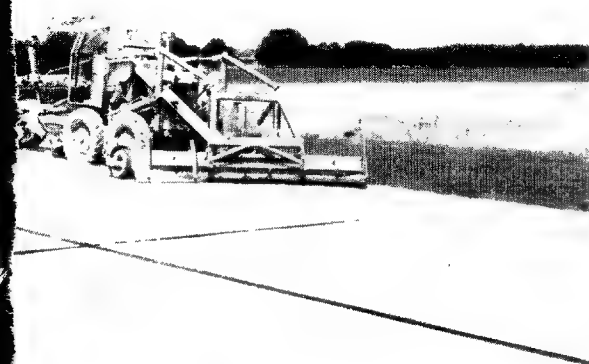
Hydraulic loader handles stockpile work, loads surplus materials





The Model D is just the right size for working inside forms . . . levels gravel base up to one-half the cost of using larger machines.

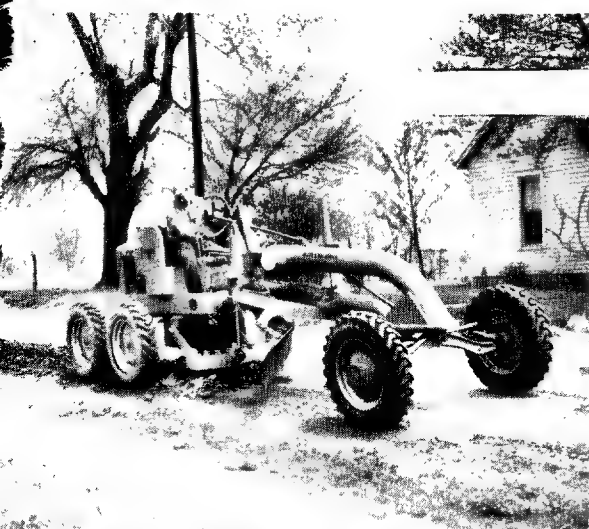
Combination of power, traction and ROLL-AWAY moldboard make the Model D suitable for many oil mix and patching jobs.



The Model D reconstructs shoulders—puts them into shape for "one-pass" maintenance with shoulder maintainer.



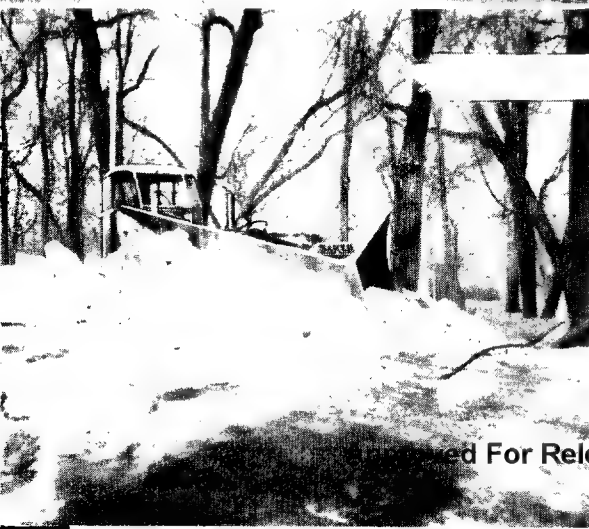
Proper balance and four-wheel traction enable the Model D to hug banks well even on two to one slopes.



Located directly behind blade and in front of driving wheels for greater ground pressure. Rips toughest surfaces without affecting steering.



The tandem drive Model D, equipped with leaning front wheels (optional), cuts ditches with ease.

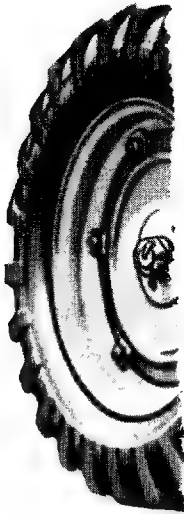


Suited particularly to clearing snow from city streets, driveways and parking lots, industrial plants and other areas.



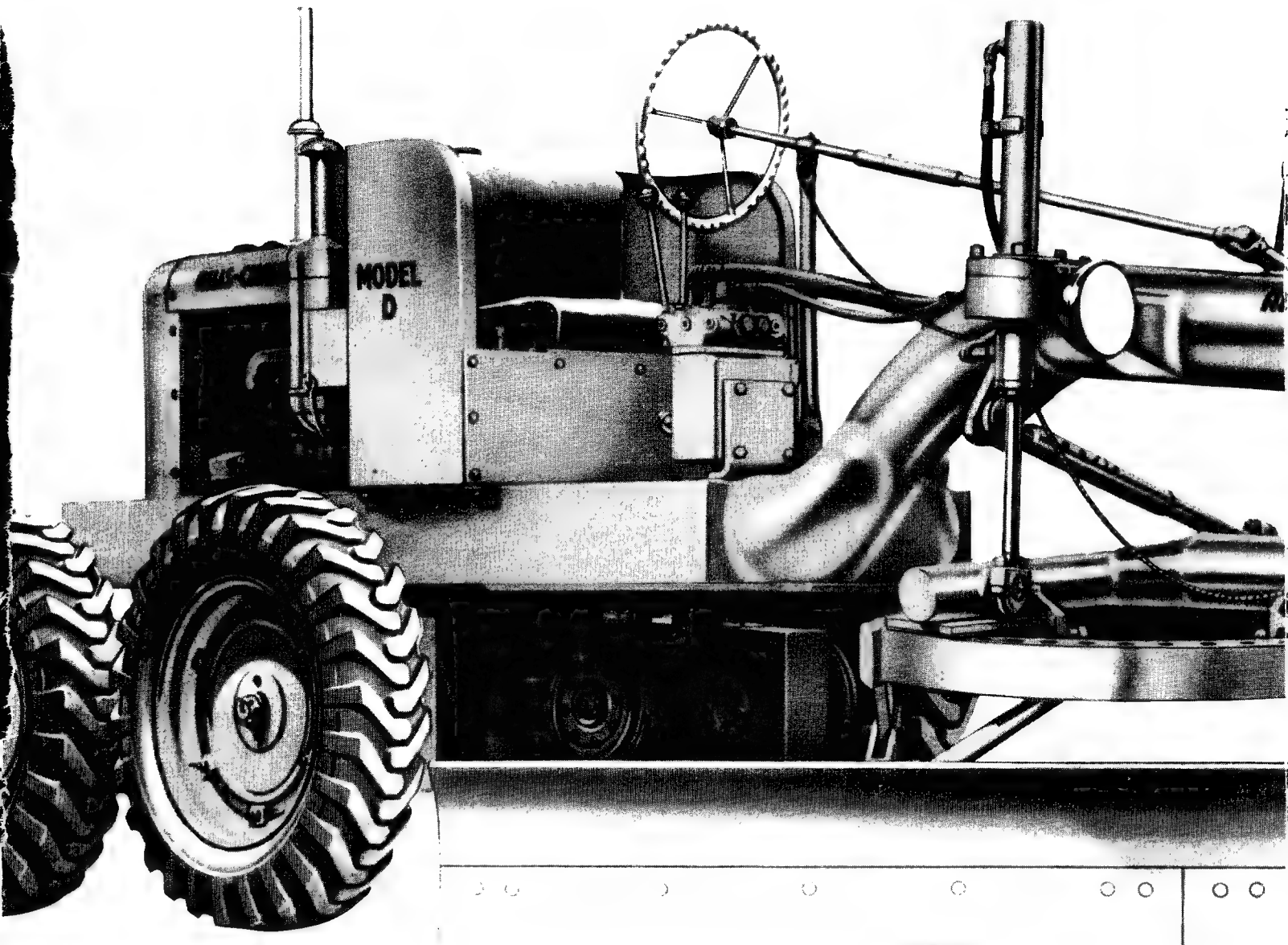
Model D gives you accurate control on precision grade jobs. High

*Allis-Chalmers*  
**MODEL D**  
**MOTOR GRADER**



**50 BRAKE HORSEPOWER**  
**WEIGHT — 8,800 LB.**  
**"ROLL-AWAY" MOLDBOARD**  
**SINGLE MEMBER TUBULAR FRAME**  
**TANDEM DRIVE**  
**NEW "POWER-CRATER" ENGINE**

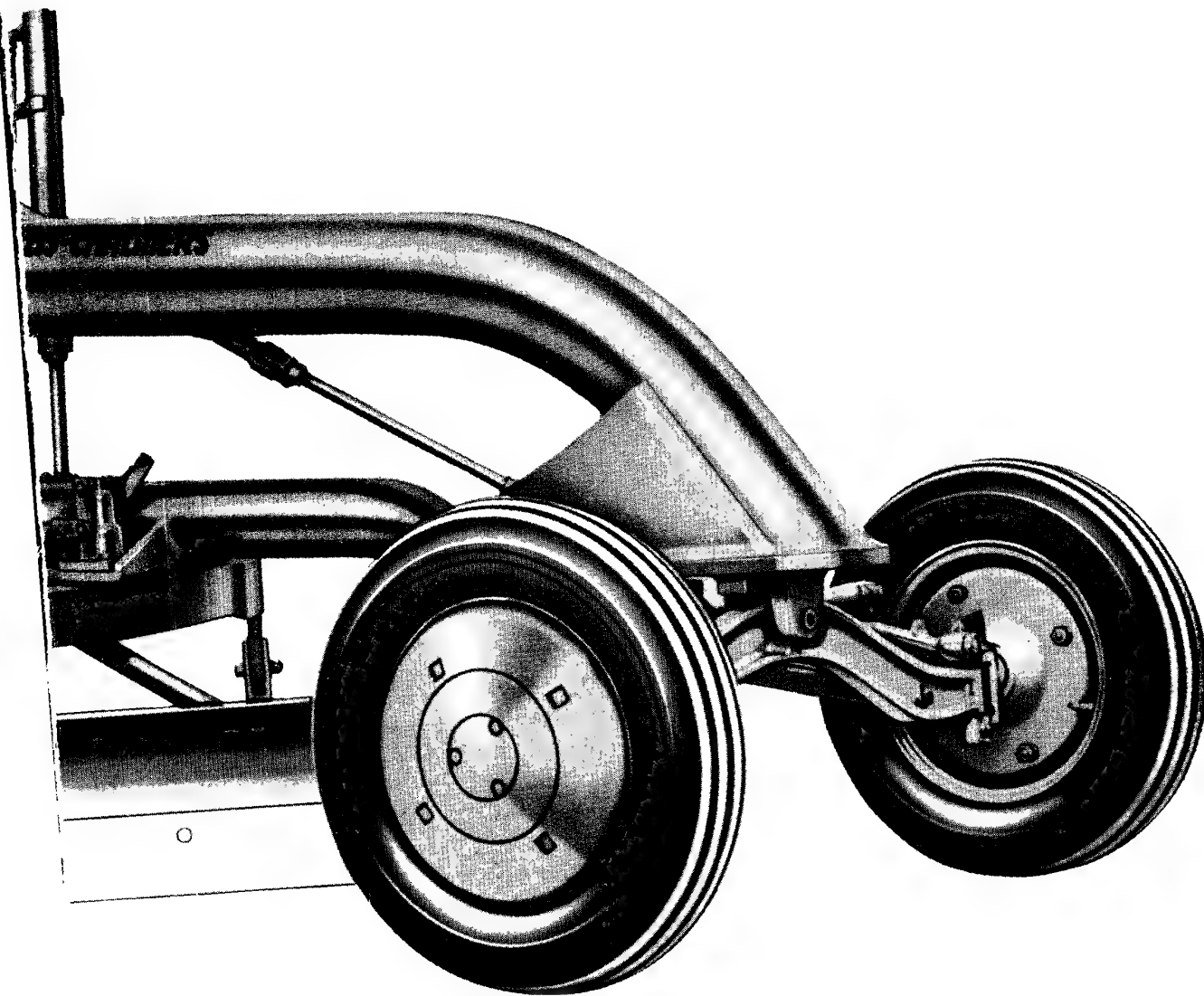
A COMPLETE LINE OF ATTACHMENTS AND  
ACCESSORIES FOR MAXIMUM VERSATILITY



Only by watching the Model D at work will you believe that a grader costing so little can do so much. See how tandem drive design helps the "D" do a better job in construction and maintenance. Notice how the shock-absorbing, single member, tubular frame gives the operator better visibility. See how the ROLL-AWAY moldboard enables the Model D to move bigger windrows...cut cleaner ditches...maintain more miles per day.

Convenient hydraulic blade controls, adjustable steering wheel, proper weight distribution make the operator's work easier, and faster. Fewer grease fittings, simple adjustments make the "D" so easy to maintain that almost any operator can service it.





ls, restful seat cushion, adjustable weight distribution, full visibility to reduce fatigue, increase output. Adjustments and easy-to-reach service points maintain that down time is low. The engine is a familiar one that requires no special training.

Only one-third the price of large motor graders and also setting records in low operating expense. Production line manufacture makes repair parts available at low cost. Efficient engine design gets more power and more mileage out of one tank of gasoline. You'll find added economy in the Model D's extra versatility. Its ability to do a great variety of jobs at low cost saves you money the year 'round.

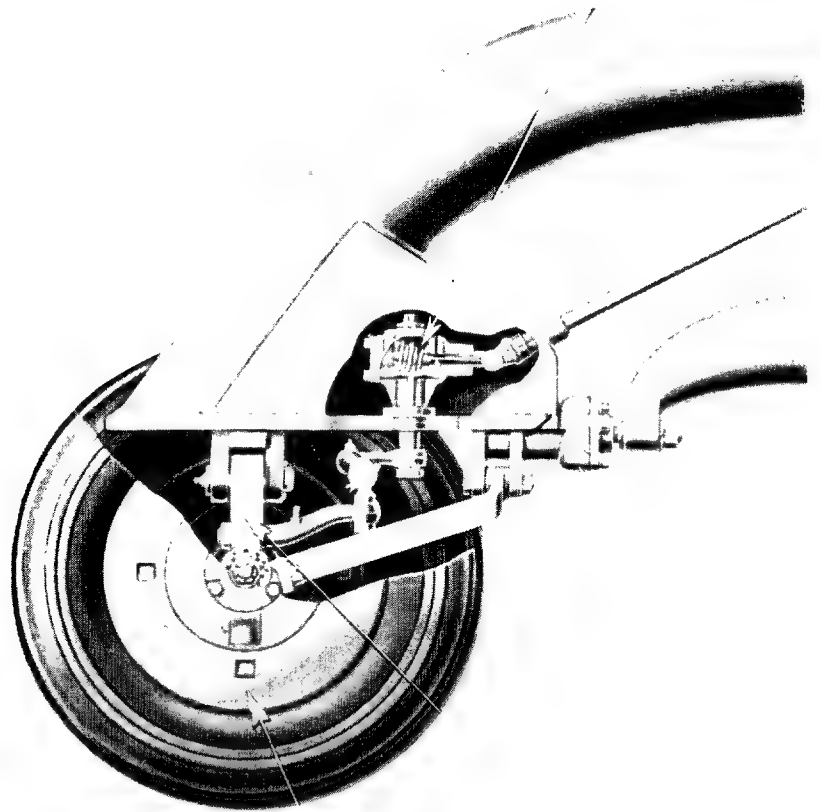
# Model D

con

Single member  
tubular main fra

Enclosed  
steering gear

the biggest  
value of all . . .



Smooth, convex  
front wheels

Ball  
socket

High arched  
front axle



Circle latch lock  
controlled from platform

Positive hydraulic  
blade lift

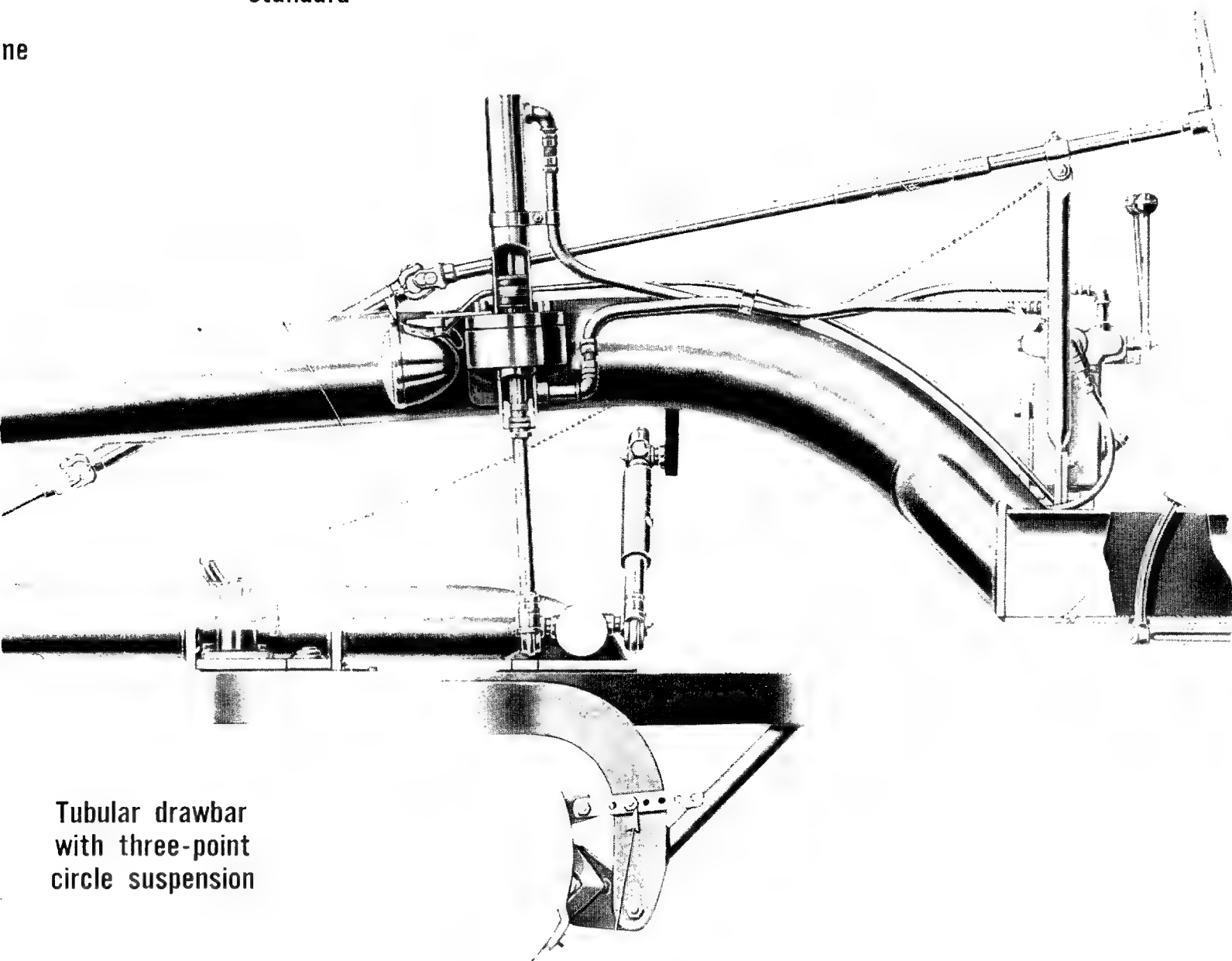
Steering  
adjustment

Electric lights and  
starting equipment  
standard

Low  
control mount

Convenient easy  
working controls

ne



Tubular drawbar  
with three-point  
circle suspension

and  
t joints

Exclusive Roll-away  
Moldboard

Welded channel  
frame

No different  
rear axle

Extra high  
throat clearance

Six blade  
pitch positions

Heavy-duty four-speed  
transmission

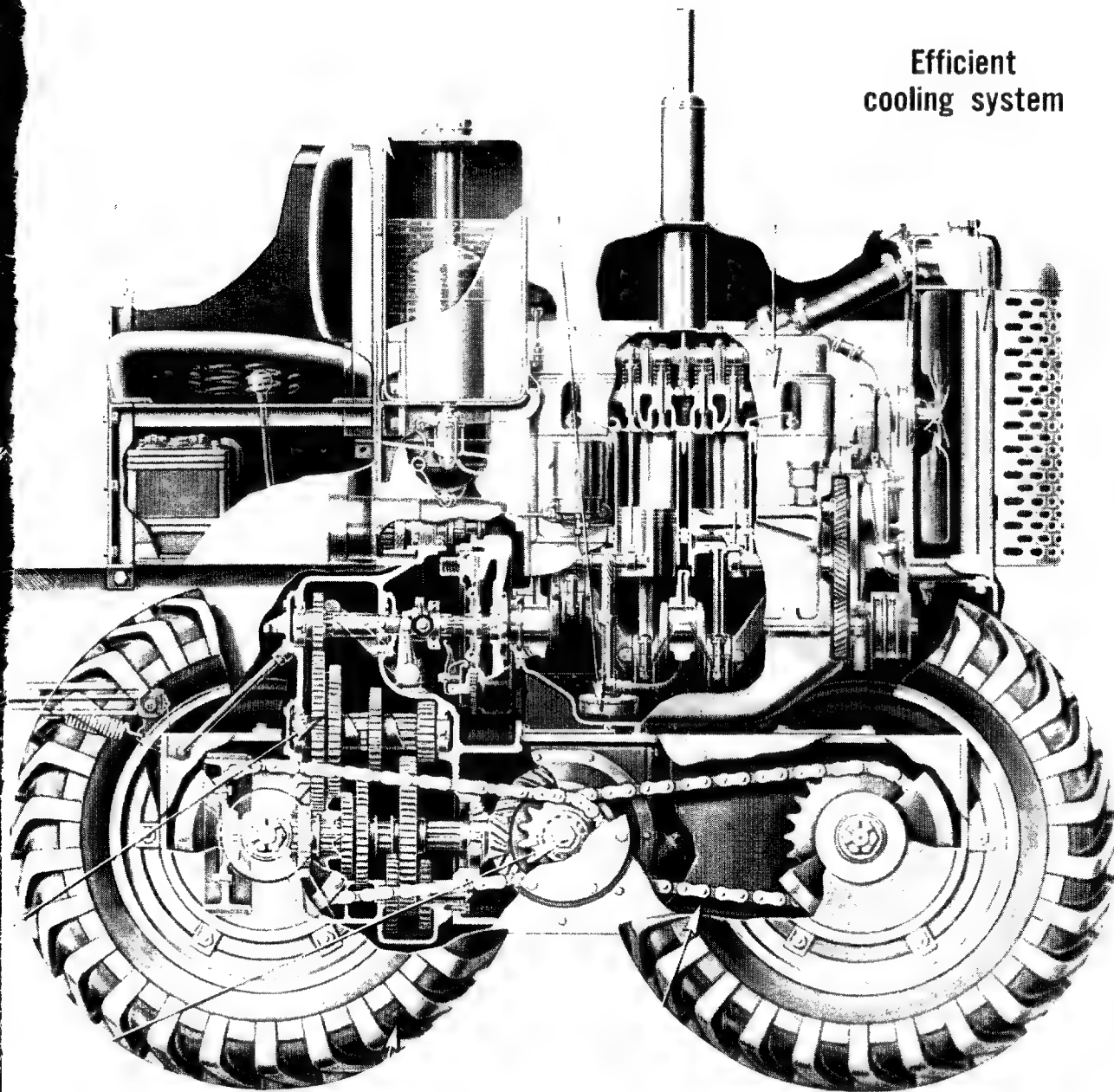
Restful seat  
cushion

Full pressure  
lubrication

18-gallon  
fuel tank

Allis-Chalmers, 50 hp.  
rear mounted  
gasoline engine

Efficient  
cooling system



Traction-tread  
motor grader tires

Heavy-duty, chain-  
driven tandems

# 50 BRAKE HORSEPOWER

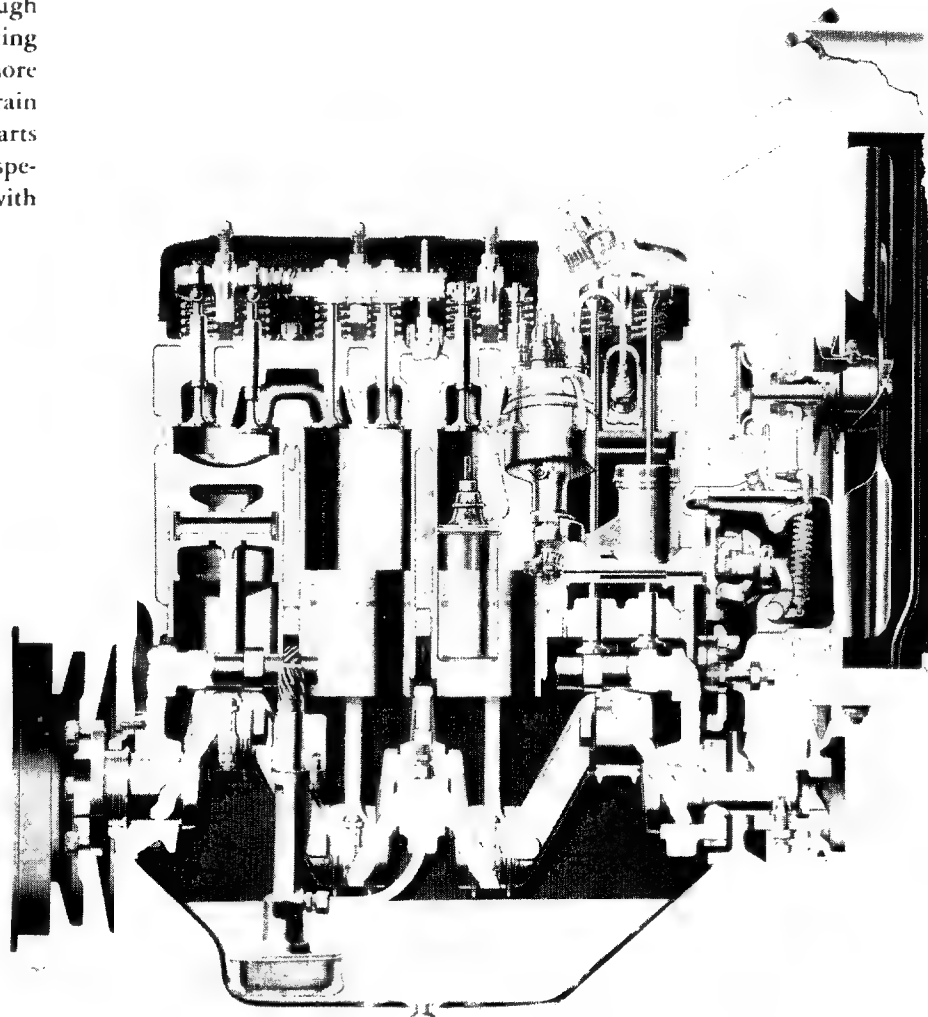
A new engine development as modern as engineering skill and research can make it . . . more power, new economy and longer engine life.

**ADDED POWER** — This outstanding new 50-brake-hp. engine adds the extra power and torque that makes it possible for the Model D to do more work at less cost than any other grader in its weight and power class. It's the reason the Model D can move big loads at high speeds and even bigger loads at slower speeds. The new engine has improved operating characteristics that provide extra lugging ability at part throttle for temporary overloads or rough grading. This feature reduces the amount of shifting required, makes it easier for operators to get more work done. It also explains why there's less strain and wear on the clutch, gear train and related parts . . . why job-to-job travel speeds are increased especially where steep grades lug down engines with less power.

**FUEL ECONOMY** — Save money with this new, powerful engine because no special, expensive fuels are needed . . . you get premium, no-knock performance on regular gasoline. And every gallon of gasoline gives you more usable horsepower than ever before.

**LONGER ENGINE LIFE** — Built to deliver a steady flow of power for normal grading yet has a large reserve to lug down on overloads. Low engine speed of 1400 rpm. develops full horsepower . . . gives exceptionally long engine life.

Make	Allis-Chalmers
Fuel	Gasoline
No. of Cylinders	4
Brake Hp. Max.	50
RPM (Governed Full Load)	1400
Lubrication	Full Pressure

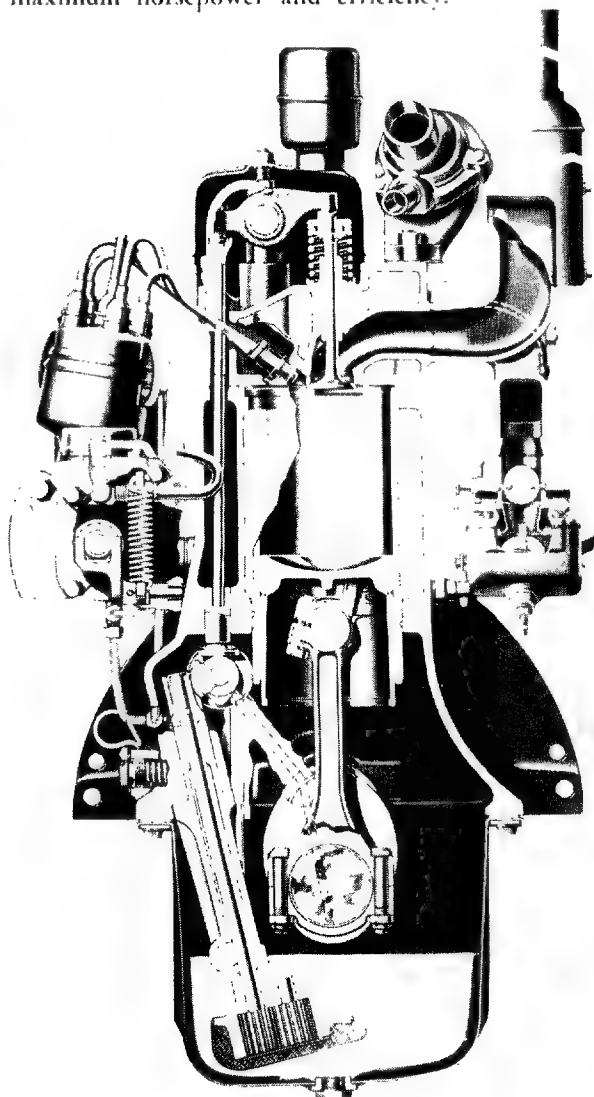


# AND IT'S POWER

## Check these big Model D engine advantages:

**"POWER-CRATER" ENGINE DESIGN**—New 226 cubic-inch displacement with high compression ratio of 6.5 to 1 and new fuel-air mixing turbulence gives added power. Center-Fire combustion provides even firing. You get premium fuel performance on regular gasoline.

**PISTONS**—Made of special lightweight alloy and shaped to provide a high compression ratio for maximum horsepower and efficiency.



**REMOVABLE "WET" CYLINDER SLEEVES** — Lengthen cylinder life, assure uniform cooling and eliminate danger of warped cylinder walls from hot spots. Sleeves are easily removed . . . can be replaced at a cost far lower than having engine block rebored.

**POSITIVE-TYPE VALVE ROTATORS** — Roto-Cap gives each valve a small turn as it starts to open. This constant rotation stops sticking, face deposits and burning . . . increases valve life up to 5 times.

**EXHAUST VALVE SEAT INSERTS**—Made of special, heat-resisting tungsten tool steel that requires fewer valve grindings and gives increased engine efficiency.

**THERMOSTATICALLY-CONTROLLED WATER SYSTEM** — Positive circulation at all temperatures. When engine is cold, the by-pass thermostat directs the flow from the water pump back through the block and head, bringing the engine to operating temperature quickly. Then thermostat opens to allow circulation through the radiator for positive temperature control.

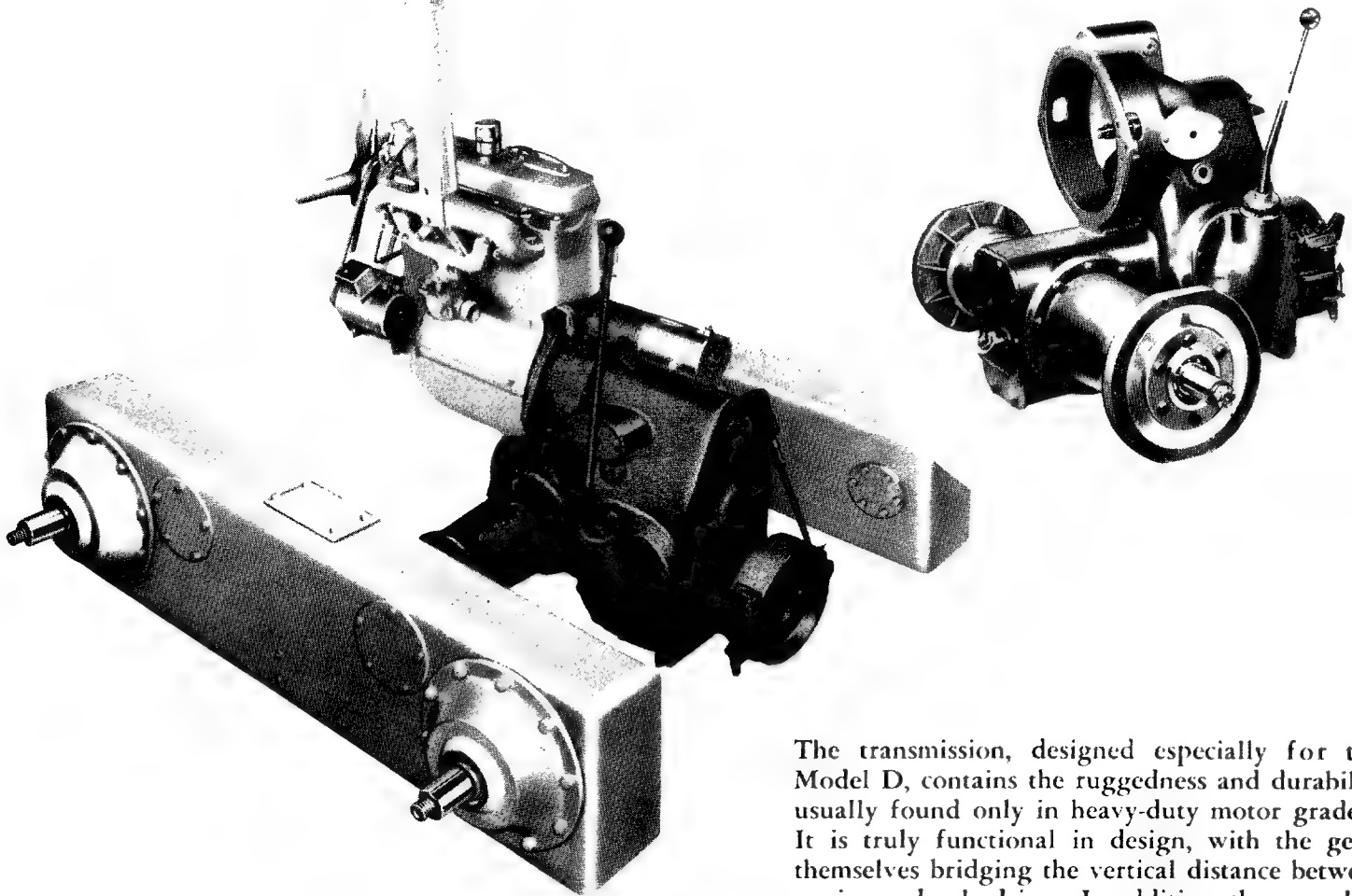
**LUBRICATION AT ALL ANGLES**—Heavy duty pump forces oil through drilled passages to vital working parts of engine. Provides thorough lubrication at all times even at extreme angles.

**QUICK ACTING GOVERNOR**—A direct oil spray lubricates governor . . . assures positive action, so important in regulating engine speed to get maximum power when needed and for best overall fuel economy.

**SEALED AGAINST DIRT**—Efficient air, gas and oil filters protect engine from destructive dust and grit. Insures steady, trouble-free performance . . . longer engine life.

**INSTANT STARTING**—Electric starting as well as electric lights are furnished as standard equipment on the Model D motor grader.

**QUICK, EASY SERVICING**—Any operator can service the Model D engine without special training or special tools. Parts subject to most wear are easy to reach for servicing. Mass production manufacturing keeps parts costs low.



The transmission, designed especially for the Model D, contains the ruggedness and durability usually found only in heavy-duty motor graders. It is truly functional in design, with the gears themselves bridging the vertical distance between engine and axle drive. In addition, the gear shift is a part of the transmission, eliminating all control linkages.

There are four forward speeds and one reverse speed to meet the full range of motor grader jobs:

## **a choice of speeds for every job**

*Grader can be throttled down to one-half of these speeds without loss of rim pull.*

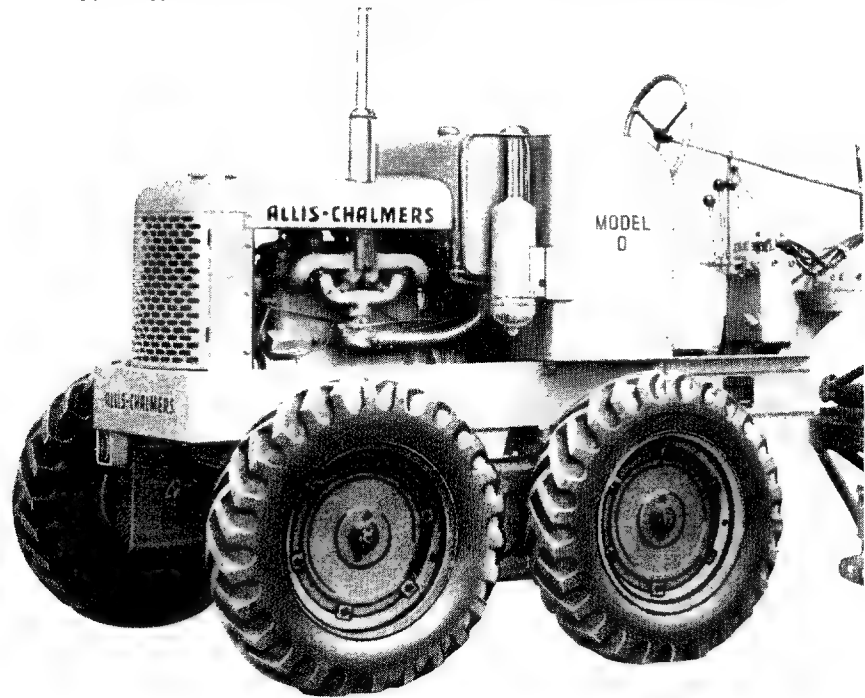
Each speed is important to proper performance—promotes a faster, cleaner job with the least strain on operator and equipment. The high travel speed saves time between jobs . . . increases total productive time.

With a speed to cover each type of motor grader application, all unnecessary gears are eliminated, shafts are shorter and stronger and the case is a compact, rigid unit that keeps shafts in constant alignment because it stands up under the stresses and shocks encountered in rough motor grader service.

Tandem drive gives you four *positive* driving wheels under the heavy end of the machine. A proven principle on large motor graders, this outstanding feature gives the Model D Motor Grader more driving power, better traction, and greater stability. The Model D rides easier and blades smoother — cuts a cleaner ditch and does an outstanding job of accurate maintenance.

## for Sure-Footed Traction

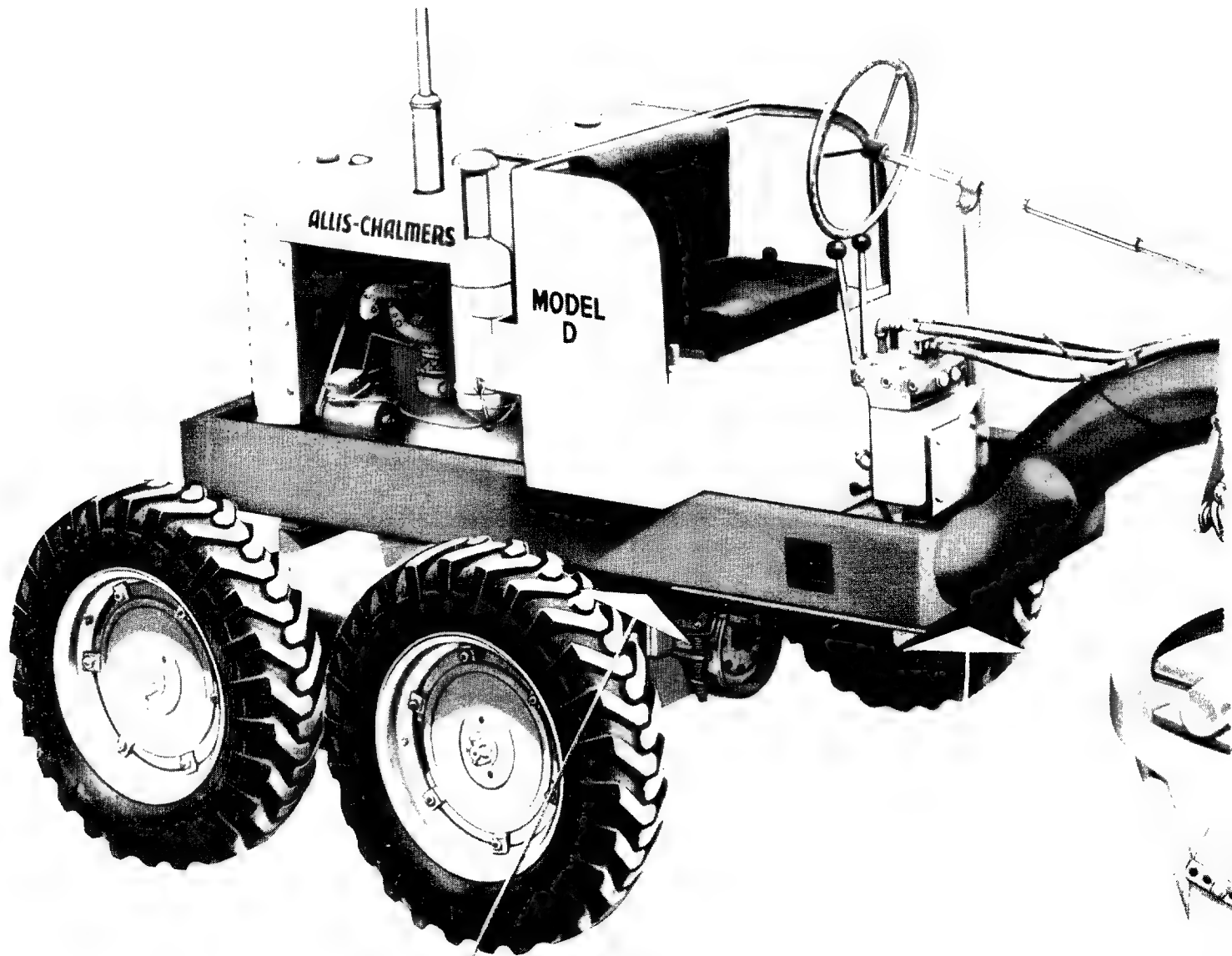
The all-welded tandem cases are strong, but carry no excess weight. They give full protection to sprockets and axle shafts. Leak-proof, they provide a full oil bath for the heavy-duty roller chains conveying power to the four driving wheels. The stiff axle drive, custom built specifically for motor grader service, increases traction. Three-piece rear axle housing with new, patented flange type tandem case mounting and full-floating main drive axle gives unequalled service simplicity and long, trouble-free life.



Tandem Drive offers **BIG GRADER** Traction, Greater Stability . . . more accurate blading.





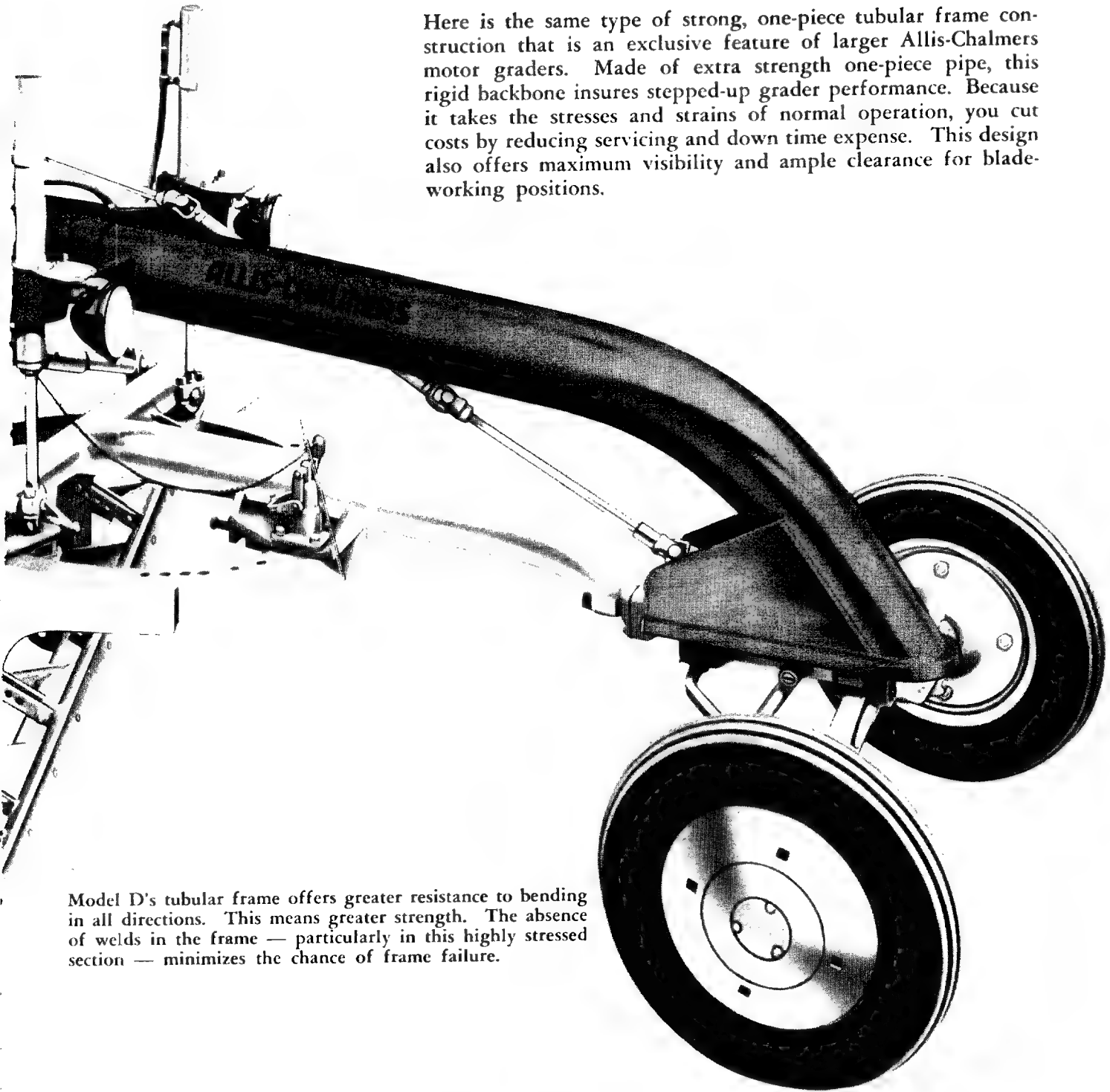


Heavy ship channels are electrically welded to form a rigid channel frame on all sides of the engine and transmission unit.

Allis-Chalmers original, pace-setting frame design — with T-shaped joint attaching single member tubular frame to rear frame members — gives the operator complete visibility.

# for greater strength

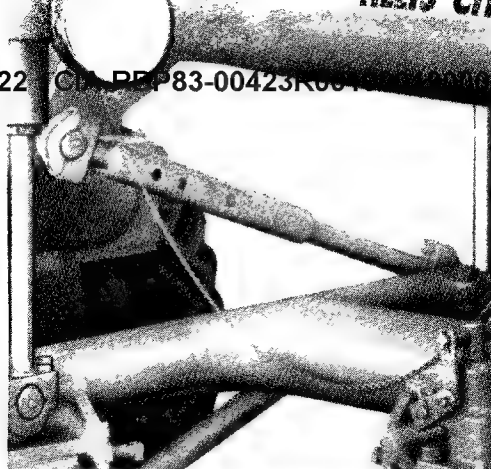
Here is the same type of strong, one-piece tubular frame construction that is an exclusive feature of larger Allis-Chalmers motor graders. Made of extra strength one-piece pipe, this rigid backbone insures stepped-up grader performance. Because it takes the stresses and strains of normal operation, you cut costs by reducing servicing and down time expense. This design also offers maximum visibility and ample clearance for blade-working positions.



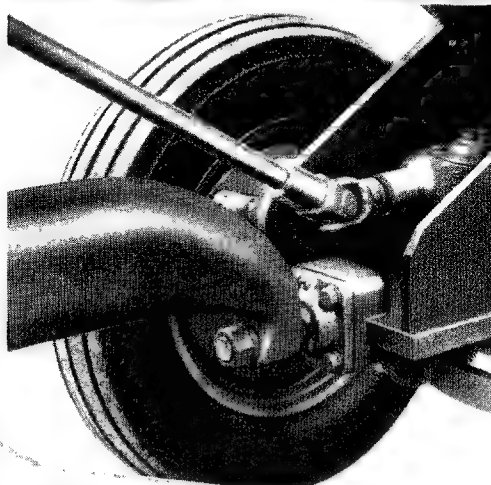
Model D's tubular frame offers greater resistance to bending in all directions. This means greater strength. The absence of welds in the frame — particularly in this highly stressed section — minimizes the chance of frame failure.



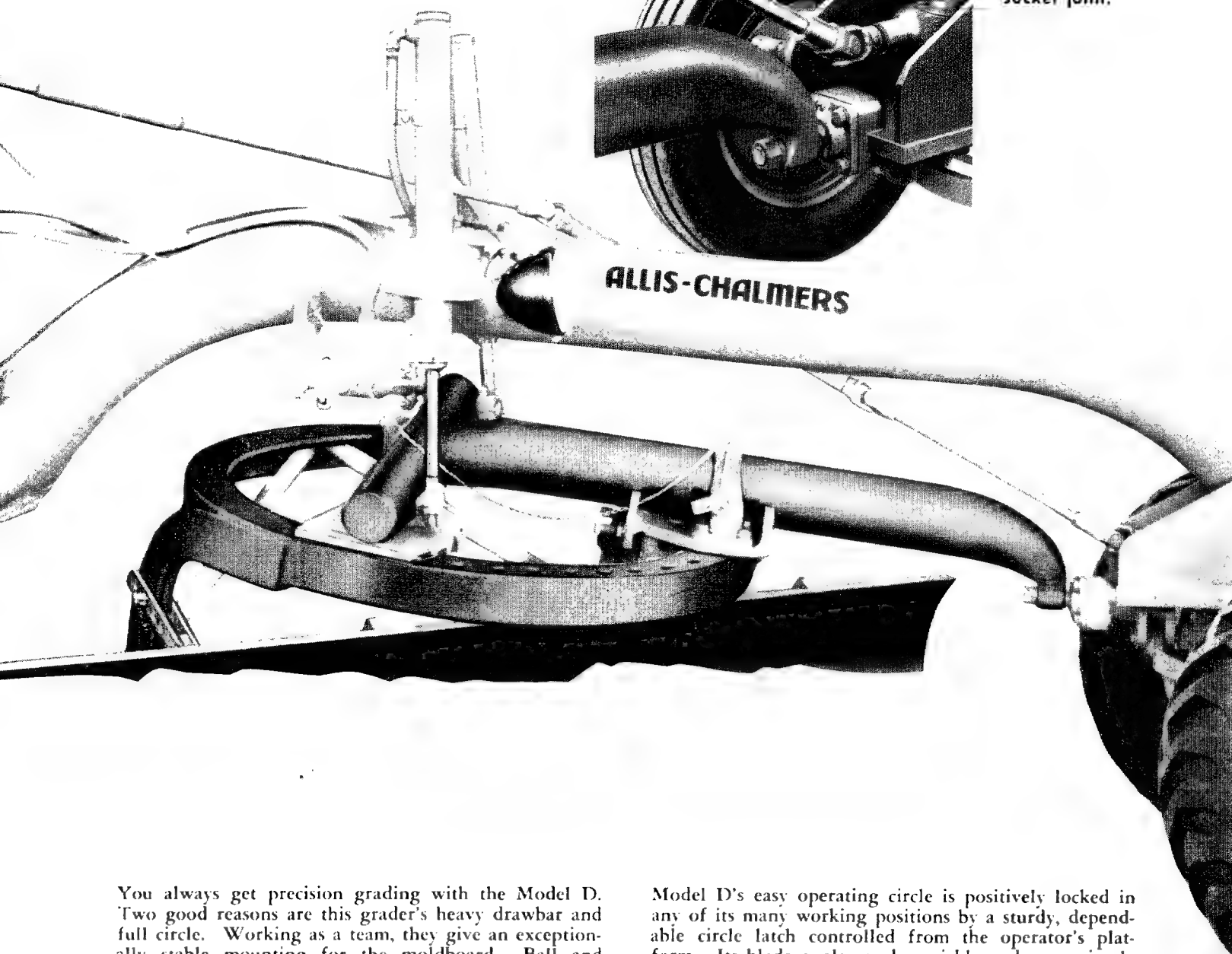
# precision made for a precision grade



Side shift extends blade for maximum reach.



Extra strong drawbar pivots on sturdy ball and socket joint.



You always get precision grading with the Model D. Two good reasons are this grader's heavy drawbar and full circle. Working as a team, they give an exceptionally stable mounting for the moldboard. Ball and socket joints at the drawbar, side shift link and lift cylinder rods, plus accurate circle guides with shims that allow for adjustment are other important features making it possible for the Model D to do precision work not normally expected of a machine this size. The

Model D's easy operating circle is positively locked in any of its many working positions by a sturdy, dependable circle latch controlled from the operator's platform. Its blade angle can be quickly and conveniently adjusted by merely unlocking the circle, lowering one end of the blade into the ground and moving the grader until the desired angle is reached. See page 18 for information on *full power* circle turn — an optional extra on the D Motor Grader.



## Uses Less Power to Move More Dirt

The ROLL-AWAY moldboard — an important feature on all Allis-Chalmers motor graders — handles more dirt than ordinary blades, yet requires no additional power. Think what this means to you — more work output at no increase in cost! The shape of the ROLL-AWAY moldboard reduces friction drag by rolling the dirt instead of pushing it along. Front-mounted lift cylinders, operated by two convenient valves, provide accurate, steady control of the moldboard even on such tough jobs as maintaining washboard gravel roads. With six pitch positions for the blade, you are sure of getting adequate adjustment for all types of work.

The telescoping side-shift link allows the proper setting of the blade for both right or left side ditching. For shoulder work or when extra reach outside the front wheels is necessary, the moldboard can be offset on the ramshorns 18 inches to the right or left.

High-arch front axle and extra throat clearance mean bigger blade loads without wasting power pushing material with axle or interfering with rolling action of blade load under circle — especially with sod or other bulky material.

*ROLL-AWAY is an  
Allis-Chalmers Trade Mark*

### THE SHAPE OF THE BLADE MAKES THE DIFFERENCE

**Ordinary Moldboard**  
(Fixed Radius Curve)  
Each portion of blade forces dirt toward a fixed point.  
Packing Limits Capacity.  
Packing action causes high friction area over entire blade — wastes power.

**"D" ROLL-AWAY Moldboard**  
(Involute or Variable Radius Curve)  
Each portion of blade forces dirt toward a different point.  
No Packing Here.  
Pressure against blade lifting dirt toward top of blade — no wasted power.

Move more dirt with the same amount of power. Hard to believe, but the diagram above shows why. Yes — and you can prove it for yourself on your own job any day. The upper portion of the moldboard on ordinary motor graders builds up a downward pressure against a capacity load of material. The ROLL-AWAY blade of the Model D lifts it away. Dirt remains loose.

# **ALL-AROUND OPERATOR COMFORT**

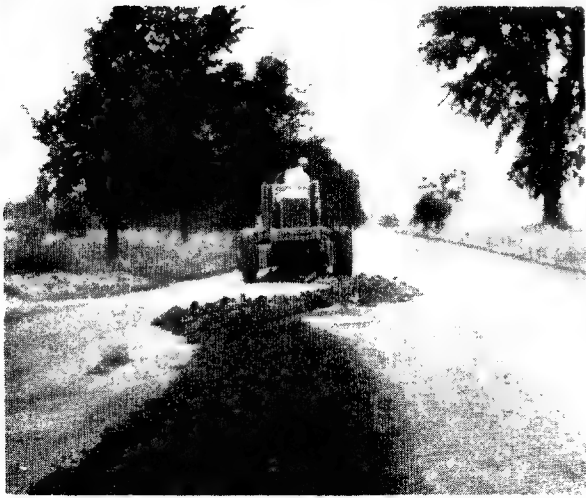
The pace-setter in the low-priced field that gives high-priced grader advantages. The rear-mounted engine and single member tubular frame permit maximum visibility in all directions . . . its cushions give comfort to the operator . . . its roomy platform permits free movement . . . adjustable steering wheel and convenient controls make the operator's job easier. In addition, tandem drive design provides smoother riding . . . greatly reduces operator fatigue.

# **PRECISE BLADE CONTROL**

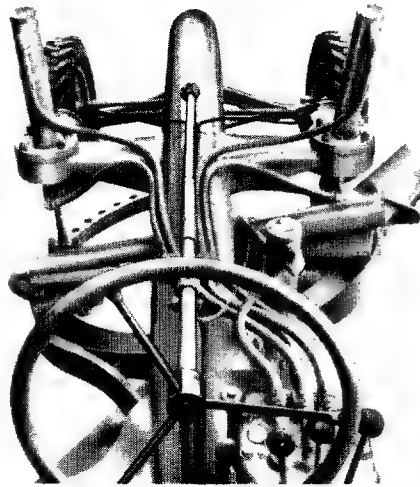
Model D's correctly engineered hydraulic system insures blade control that's positive and accurate. This grader's lift cylinders are mounted directly over the circle to provide precision control no matter what the job. And, for greater operator convenience, two levers that fit into the palm of one hand, control the hydraulic circle lift surely and easily.

# **EASY TO SERVICE**

The Model D is easy to service and maintain. Fewer grease fittings, simplified adjustments and conveniently located service points contribute to better care and longer life. Almost any operator can take care of the Model D gasoline engine without special training or special tools.



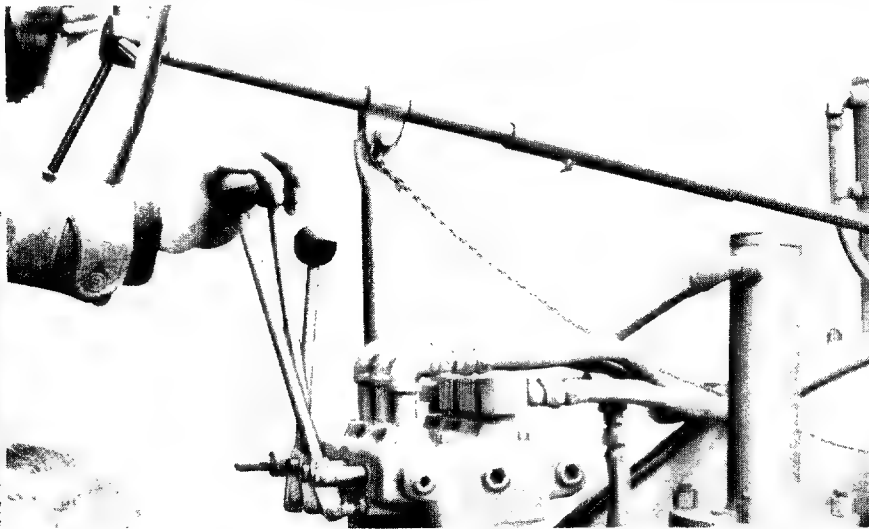
Better maneuverability results from efficient weight distribution, heavy-duty steering gear and grader tires. Even with scarifier and rear-end loader, the Model D is easy to steer.



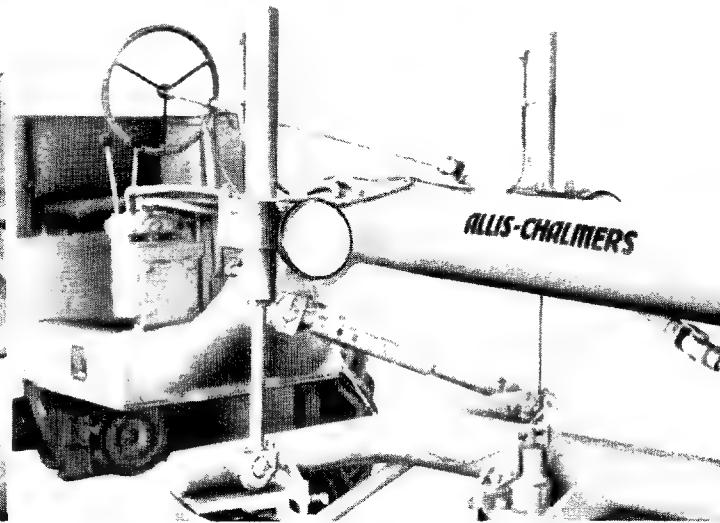
Full 360° visibility is yours with the Model D. With engine in the rear and single tubular frame, you can see the work from a standing or sitting position.



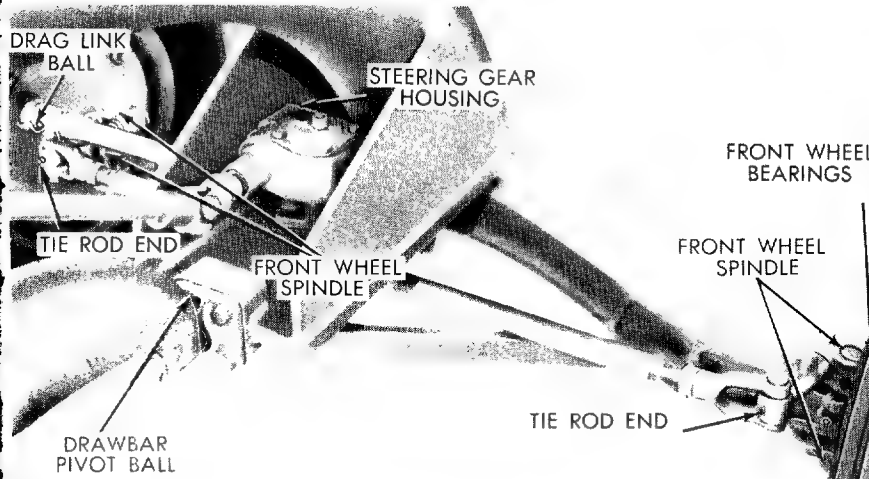
Shift lever is located next to operator and directly over the transmission for positive, easy shifting. Conveniently located, too, are starter, throttle, ammeter and pressure gauges.



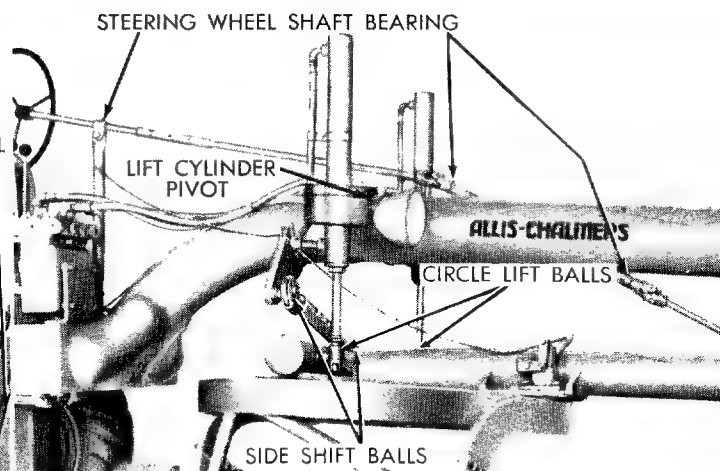
Here's how simple it is to operate the blade with the hydraulic lift. One hand operates convenient valve levers for positive control.



One important reason for Model D blade accuracy is the position of its lift cylinders. They're located directly over the circle.

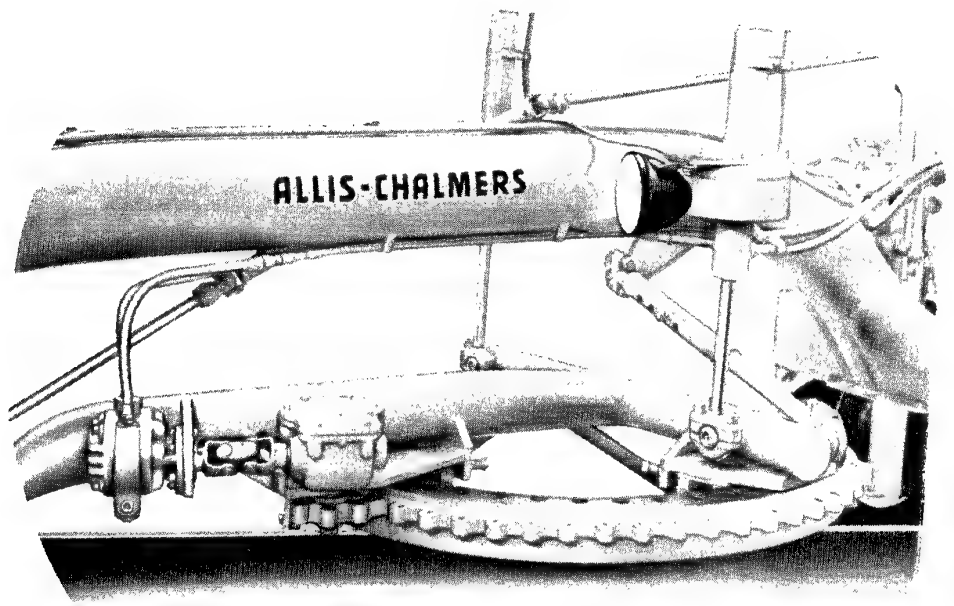


Regular maintenance care of the Model D is an easy matter. Above illustration shows how an operator can reach eight lubrication points at the front of the grader from just one position.

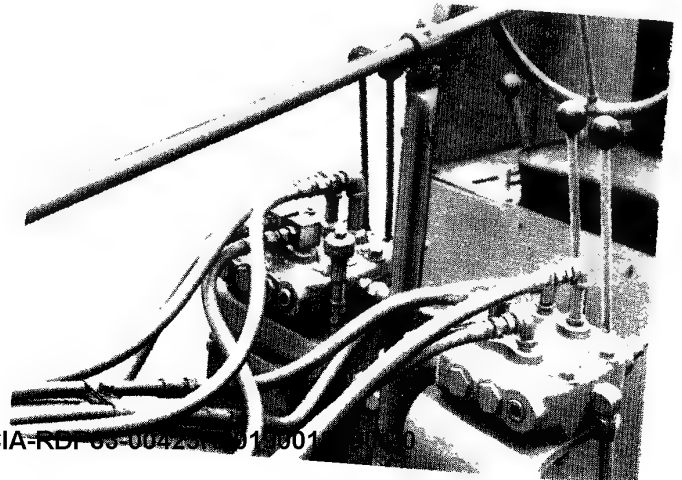


Other parts of the Model D are just as accessible for servicing. Here you can see what a simple matter it is to reach the lift cylinders, drawbar and circle.

**... faster and easier**

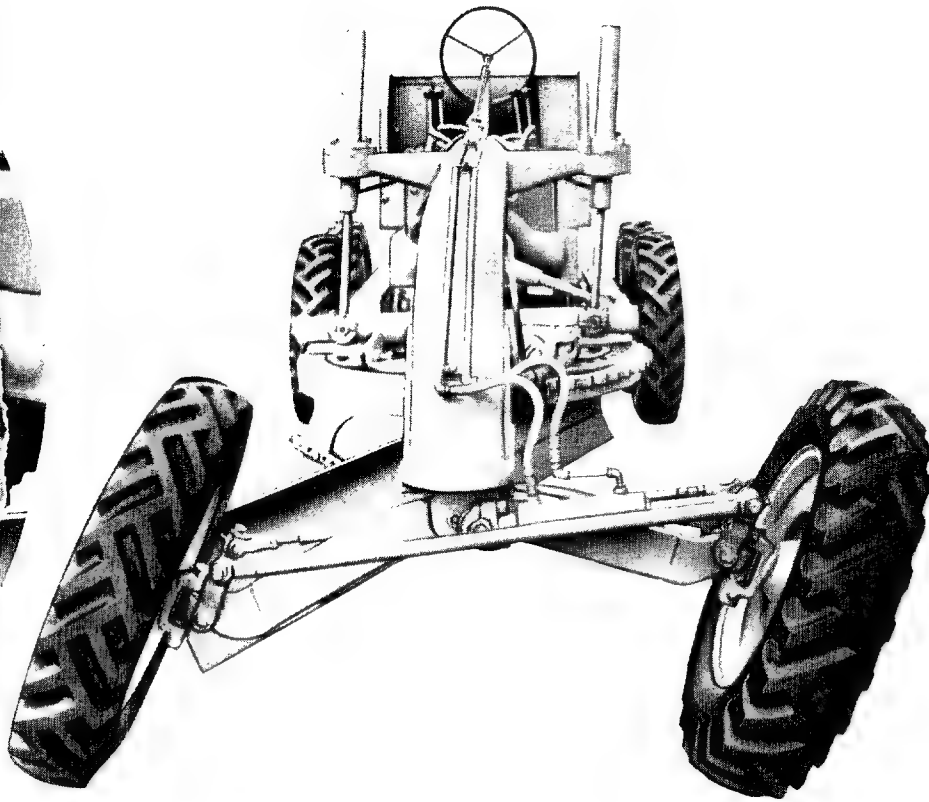


*Another Big Grader Feature for the Model D.* Full hydraulic power circle turn gives precision blade adjustment at the flick of a lever. Operator has faster, easier, better control of blade on all construction and finishing jobs. This time and labor-saving feature has 135° turn and is hydraulic-motor driven — gives the same positive, long-life precision circle control and action featured in larger Allis-Chalmers motor graders.



with these additional \*

# FEATURES



*For Greater Handling Ease* and better control in close quarters work. Hydraulically-controlled front wheel lean adds stability to the Model D motor grader on construction work and in ditching and bank cutting applications, provides 25° lean each way. The Model D maintains the same high front axle clearance with this optional extra.

The hydraulic two valve group at left is used to operate the front wheel lean and power circle turn. Easy-to-work levers provide precise control.



# ... all year on a variety of jobs

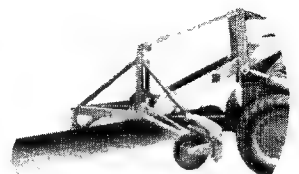
## for fast, low-cost loading

This Tractomotive TL-D Loader, designed especially for the Model D motor grader, provides hydraulically-controlled dumping and crowd action for fast, efficient loading. Mounted on the rear of the grader, the  $\frac{5}{8}$  cu. yd. bucket takes advantage of the grader's channel frame-work, motor weight and tandem drive traction to give you fast, dependable, low-cost loading. Loader at rear does not interfere with normal grader operation ... bucket is interchangeable with shoulder maintainer.



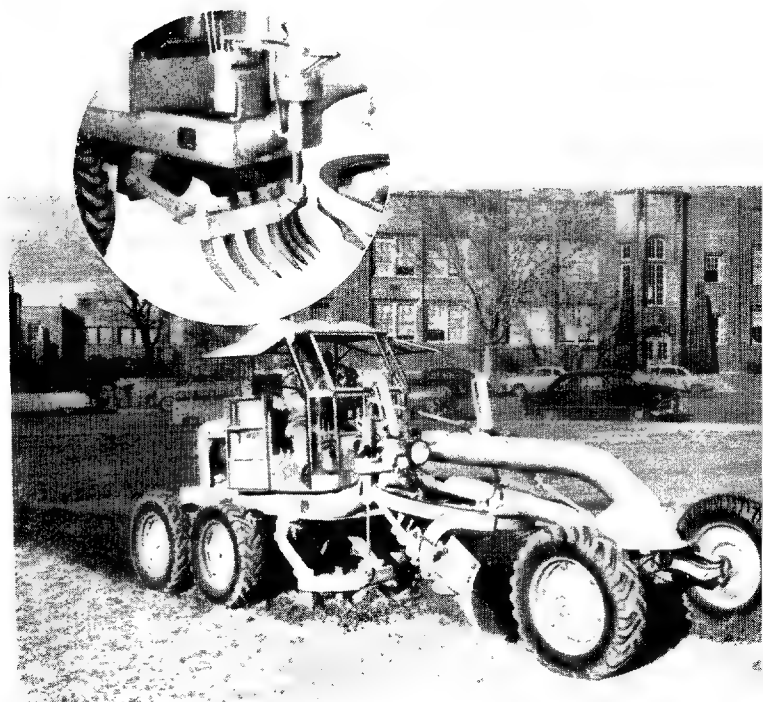
## provides safe, one-pass operation

For quick, precision shoulder work—eliminates double passes after shoulder is shaped by spreading the windrow. Greater highway safety results because all your work is done off the road. Blade levels excess material to a smooth, well-drained profile. Can be on or off in a matter of minutes. Interchangeable with rear-end loader bucket to give you the perfect combination for all shoulder work—shaping and maintaining. No interference with normal grader operations.



**mounted under heavy end of grader gives maximum ground pressure**

The Model D does scarifying work never before expected of a motor grader its size. Mounted to the frame back of the circle, the scarifier operates with greater ground pressure because it's under the heavy end of the machine. Fast, accurate ripping with hydraulically-controlled penetration. Easy steering resulting from greater front-end stability. With seven teeth, scarifier cuts swath 27 $\frac{3}{4}$  in. wide.



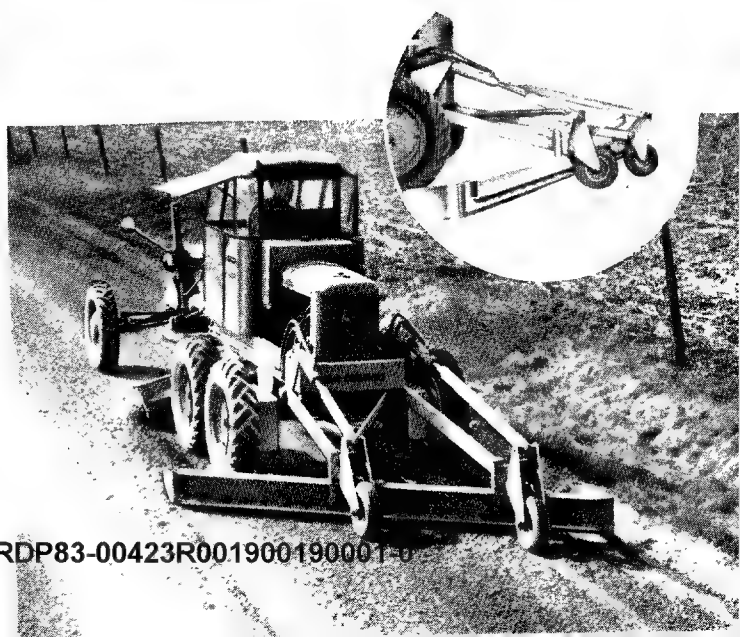
**extend Model D usefulness through the winter**

Hydraulically-controlled plow makes the Model D an effective snow-removal machine. A blade plow, interchangeable with the V-plow, can also be used for back-filling and light bulldozing work. Both plows operate from the main hydraulic system.



**makes clean-up operations faster and easier**

Feathers out excess material from shoulder and road bed under accurate regulation. Control is easily maintained because eliminator rides on its own wheels — with blade settings unaffected by up or down movement of grader. Hydraulically operated.





**STAND-UP CAB** — Completely enclosed with safety glass and all-steel framework. Windshield can be opened for ventilation. Excellent visibility. Cab is 78½ in. high inside.

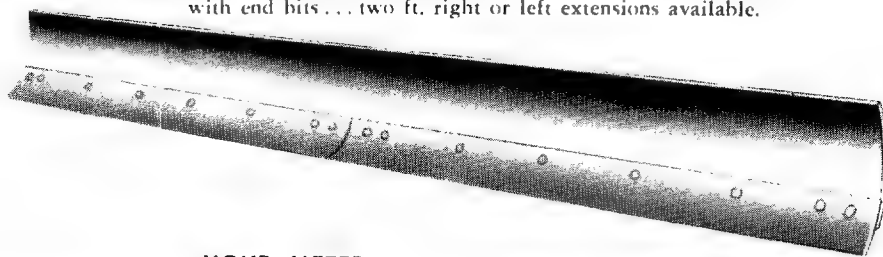
**SPECIAL FRONT TIRE EQUIPMENT**

7.50x20 (6 ply) grader tires

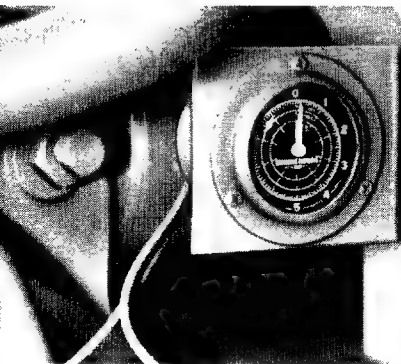


**SPECIAL MOLDBOARD EQUIPMENT**

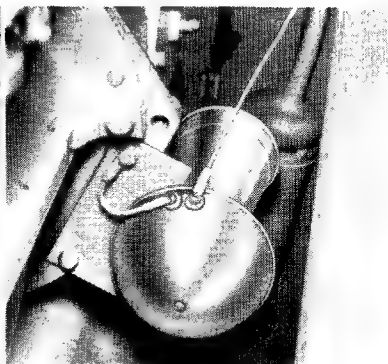
12 ft. by ¾ in. moldboard or 10 ft. by ¾ in. moldboard with end bits... two ft. right or left extensions available.



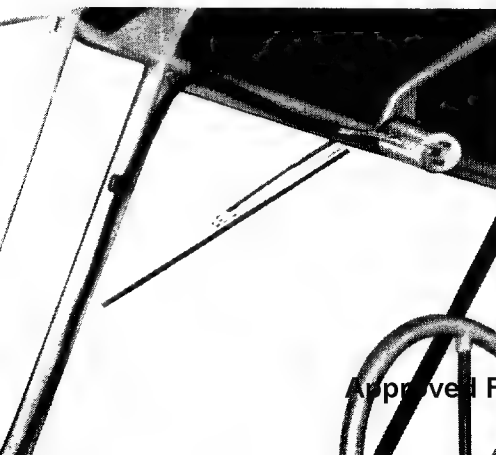
**HOUR METER**



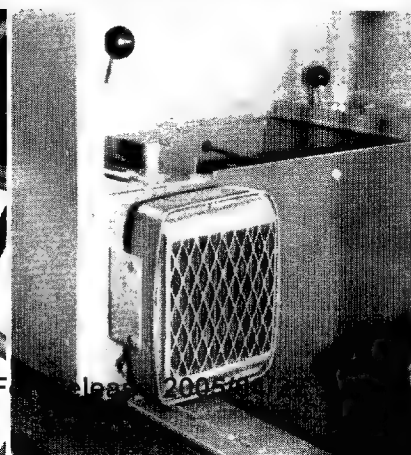
**HORN**



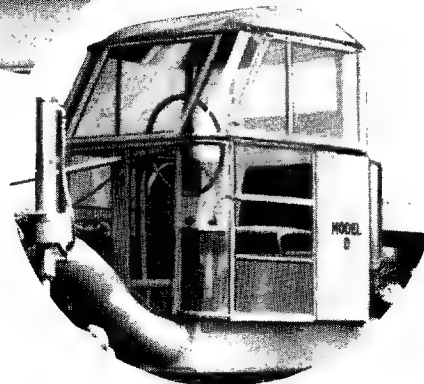
**WINDSHIELD WIPER**



**CAB HEATER**



Also available — lightweight cab with safety glass windshield and vinylite windows. Upper part of cab lifts off. Easily installed or removed by one man. Cab is 61 in. high inside.



**for extra special performance**

Standard equipment for the Model D motor grader includes: six-volt electric generator, starter, battery, two headlights, one combination rear and stop light, 10 ft. x 5½ in. mold-board, hydraulic controls for mold-board lift, four 7.50x20 (6 ply) rear and two 6.50x16 (6 ply) front pneumatic tires.

In addition to the standard equipment and attachments special accessories are available to give added operator comfort and efficiency. Check to see which items will prove advantageous on your jobs.

**Other Special Items**

**ODOMETER**— Registers miles or kilometers.

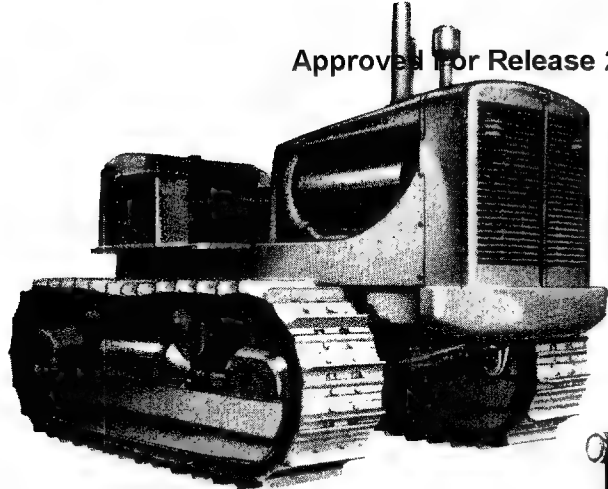
**PAINTING**— Any color other than standard.

**DEFROSTER FAN**

## EVERY WAY YOU FIGURE

## ***SPECIFICATIONS***

<b>WEIGHT</b> (Approx. Lbs.)	Shipping ..... 8,800 On Front Wheels ..... 2,700 On Rear Wheels ..... 6,100
<b>BLADE PRESSURE</b>	Lbs. .... 4,900
<b>SPEEDS — MPH.</b>	Grader can be throttled down to one-half of these speeds without loss of rim pull. First ..... 2.7 Second ..... 4.9 Third ..... 11.8 Fourth ..... 25.8 Reverse ..... 3.3
<b>DIMENSIONS</b>	Length Overall ..... 18' 4" Width Overall ..... 6' 1/2" Height Overall—With 61" Cab ..... 7' 6 1/2" With 78 1/2" Cab ..... 8' 9 7/8" Without Cab ..... 6' 13 1/4" Wheelbase (Distance Front Axle to Rear Drive Axle) ..... 13' 11 1/2" Blade Base ..... 6' 1/2" Tread—Front (6.50x16) ..... 60" Rear (7.50x20) ..... 64 1/2" Turning Radius ..... 32' 10"
<b>MOLDBOARD</b> (Standard)	Length ..... 10' Thickness ..... 3/8" Width (Straight across including cutting edge) ..... 15 1/2" Width (Measured on curve including cutting edge) ..... 16 5/8" Shape ..... Involute Curve
<b>MOLDBOARD</b> <b>RANGE</b>	Side Shift ..... 5 3/4" Number Positions (Pitch) ..... Six Shift on Moldboard Arms ..... 18" R or L Lift Above Ground (Max.) ..... 12" Maximum Reach Outside Front Wheels ..... 48 1/2" R or 42 3/4" L
<b>CIRCLE</b>	Diameter ..... 48" Section Shape and Size ..... 4" x 3 3/4" x 3/4" Degrees Turn ..... 122 1/2
<b>DRAWBAR</b>	Dia. of Main Member ..... 5 1/2" Dia. of Cross Member ..... 4" Circle Supports ..... Fully Adjustable
<b>LIFTING</b> <b>MECHANISM</b>	Type ..... Hydraulic Dia. of Cylinder (Inside) ..... 2 1/2" Stroke ..... 20" Piston Rod Connection ..... Ball and Socket Connection Take-Up ..... Shims
<b>TANDEMS</b>	Construction ..... Welded Plate Drive ..... Roller Chain Wheel Centers ..... 40 7/8"
<b>FRAME</b>	Construction ..... Welded Pipe and Channels Pipe Size ..... 8" Weight per Foot ..... 28.55 lbs. Channel Size ..... 8" Weight per Foot ..... 22.8 lbs.
<b>AXLE — FRONT</b>	Construction ..... Cast Steel Axle Tilt (Each Way) ..... 15° Clearance at Center Line .. 6.50x16     7.50x20 15 5/8"     19"
<b>AXLE — REAR</b>	Construction ..... No Differential
<b>TIRE SIZE—FRONT</b>	Standard (6 ply) ..... 6.50x16 Special (6 ply) ..... 7.50x20
<b>TIRE SIZE—REAR</b>	Standard (6 ply) ..... 7.50x20
<b>ENGINE</b>	Make ..... Allis-Chalmers *Brake Horsepower Max. at 1400 R.P.M. ... 50 Fuel ..... Gasoline No. of Cylinders ..... 4 Bore and Stroke ..... 4" x 4 1/2" R.P.M. (Governed Full Load) ..... 1400 Piston Displacement — cu. in. .... 226 Piston Speed—ft. per min. at 1400 R.P.M. .... 1050 Lubrication ..... Full Pressure
<b>CAPACITIES</b>	Fuel Tank (Gal.) ..... 18 Cooling System (Qts.) ..... 12 Crankcase (Qts.) ..... 7 Transmission (Gal.) ..... 4
<b>SPECIAL</b> <b>EQUIPMENT</b> (Extra Cost)	<b>POWER CIRCLE TURN (Range)</b> ..... 135° <b>WHEEL LEAN (Range each way)</b> ..... 25° <b>SCARIFIER</b> Weight (lbs.) ..... 275 Width of Swath ..... 27 3/4" Number of Teeth ..... 7 Ground Pressure (Max.) ..... 4900 lbs. Control ..... Hydraulic <b>CAB, 12' MOLDBOARD, 10' MOLDBOARD</b> <b>with END BITS, 2' EXTENSIONS, SNOW-</b> <b>PLOW, WINDROW ELIMINATOR,</b> <b>SHOULDER MAINTAINER &amp; REAR-END</b> <b>LOADER.</b>



**CRAWLER TRACTORS**

HD-20  
175 net hp. at the  
flywheel  
Weight - 41,000 lbs.

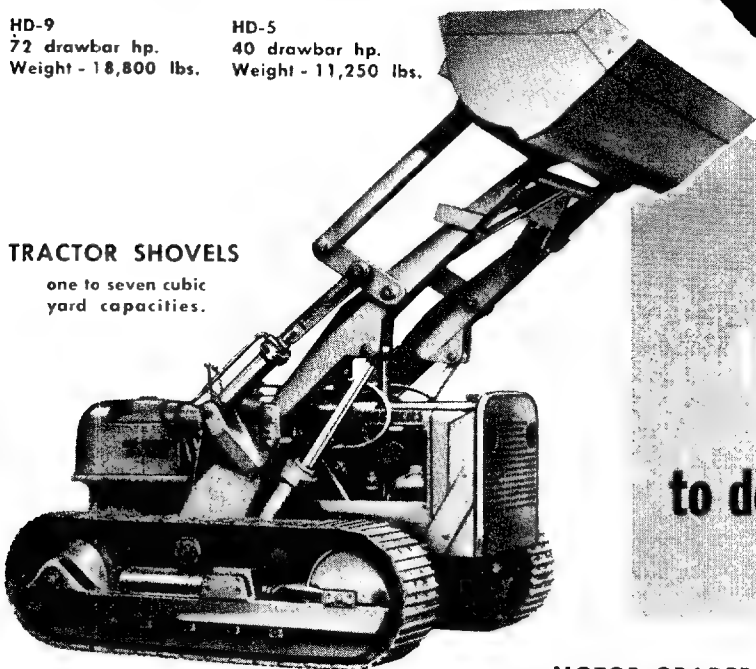
HD-15  
109 drawbar hp.  
Weight - 27,850 lbs.

HD-9  
72 drawbar hp.  
Weight - 18,800 lbs.

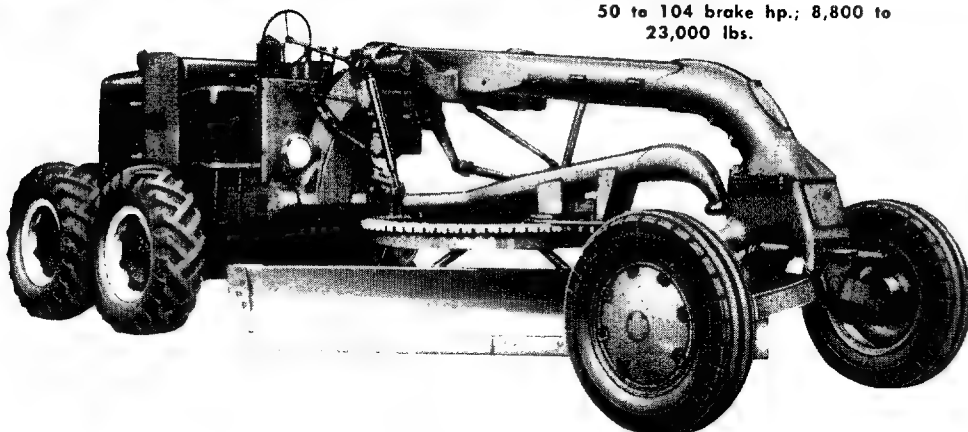
HD-5  
40 drawbar hp.  
Weight - 11,250 lbs.

**TRACTOR SHOVELS**

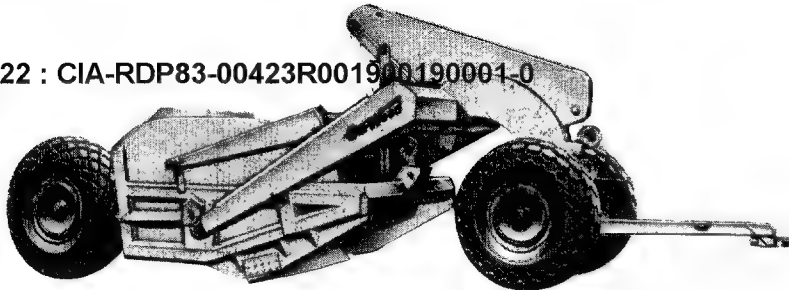
one to seven cubic  
yard capacities.



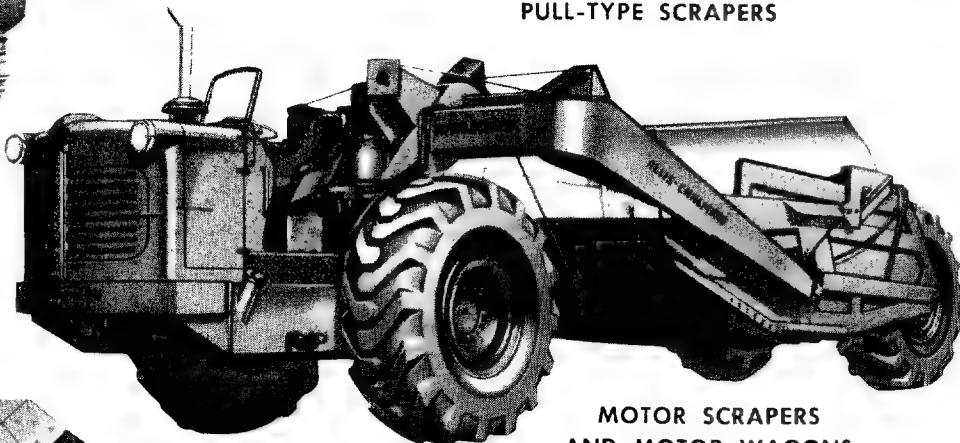
**MOTOR GRADERS—four models—**  
50 to 104 brake hp.; 8,800 to  
23,000 lbs.



**to do today's jobs better—at lower cost**



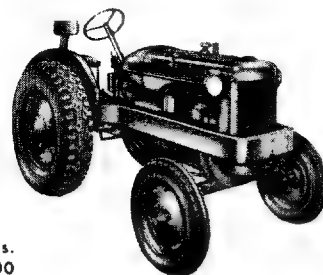
**PULL-TYPE SCRAPERS**



**MOTOR SCRAPERS  
AND MOTOR WAGONS**

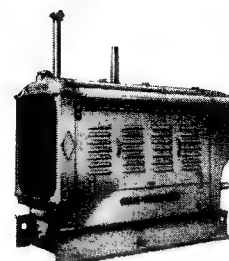
**MODEL 1B  
WHEEL  
TRACTOR**

Weight - 2,365 lbs.  
Hp. - 20.6 at 1500  
rpm.



**POWER UNITS**

3 sizes from 24.5 to  
74 brake hp.



**ALLIS-CHALMERS TRACTOR DIVISION • MILWAUKEE 1, U.S.A.**

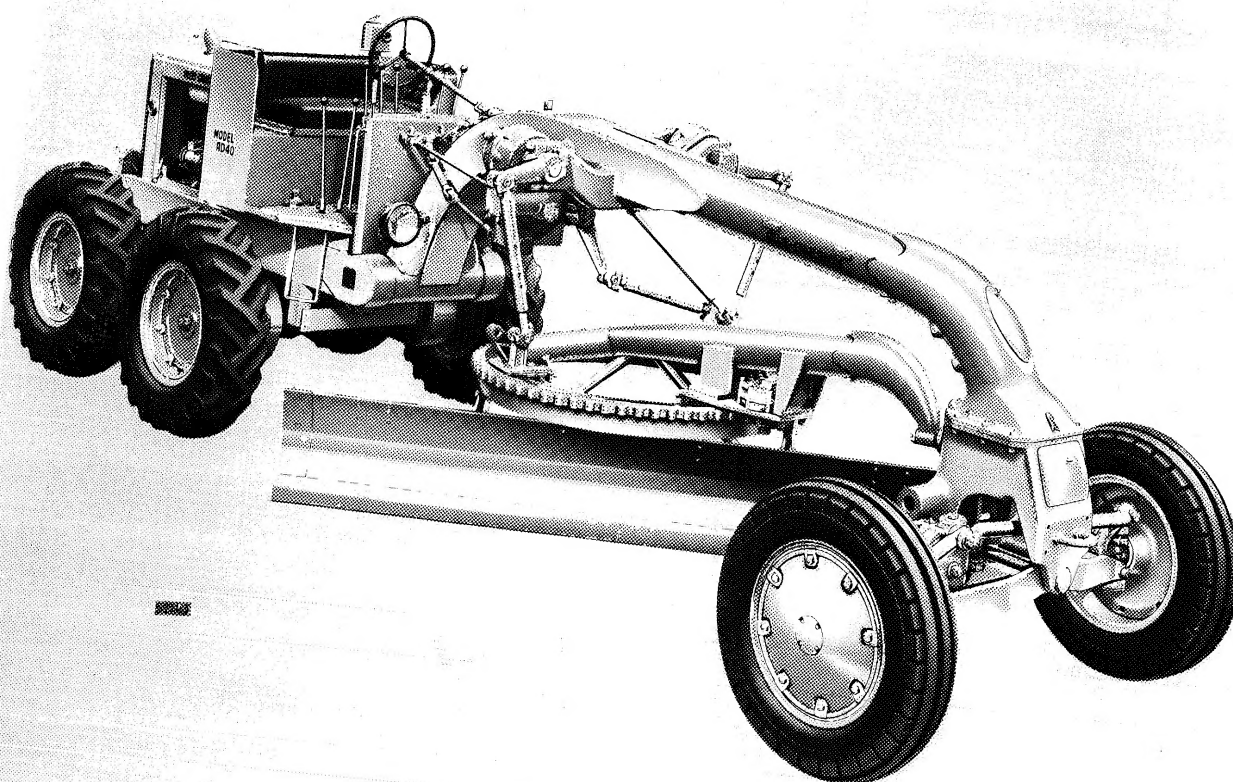
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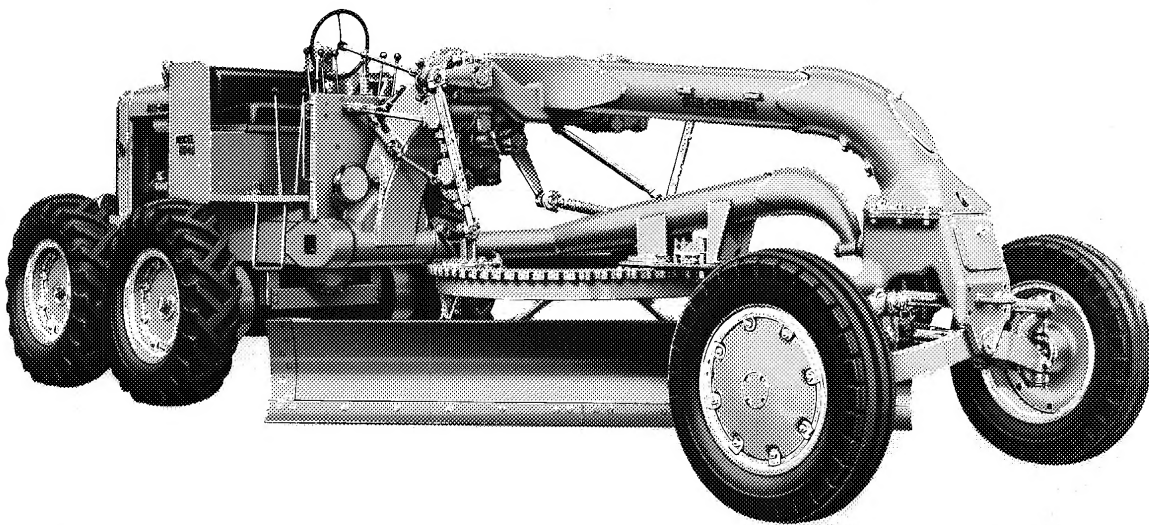


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